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ASTIGMATISM AND BRAIN WORK

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Nature creates no standardized products, but rather makes organs that approximate perfection and then supplies other organs or mechanisms to correct the defects. This is especially illustrated in the cornea of the eye. The outside integument of the eyeball, the sclerotic coat, is curved out in front like a bow; and this anterior process forms the cornea, an especially important part of the refractive mechanism of the eye. The curvature of the cornea determines its refractive power. Any variation in this curvature modifies the refraction; hence it is easy to see that in the inherited processes of growth and with all the accidents of growth errors in curvature, and hence errors in refraction, may often occur. These errors constitute the various forms of so-called astigmatism.

Astigmatism, from the Greek ἄ privative and στγμα a point, signifies, as the word indicates, that condition of refraction in which parallel rays of light entering the eye do not come to a focus at the same point on the retina, but there are several foci. The defect is due to an error in the refracting surface, either of the cornea, or of the lens, or of both, usually of the cornea.

Astigmatism was discovered by Thomas Young, who himself had astigmatic eyes. He noted this defect in his own case, but thought it due to a defect in the lens of his eye. Not until many years later did Donders show that astigmatism usually results from differences of refraction in the different meridians of the cornea, and that for the most part the vertical

meridian and those lying near it have a greater curvature and consequently greater refractive power than the horizontal and adjacent meridians.

The discovery of astigmatism was of special significance to hygiene. Its importance is obvious when one reflects that nearly everybody has some degree of astigmatism in one or both eyes, that even a small refractive error of this kind under conditions of fatigue and overwork may cause eyestrain, and that connected with this trouble are liable to be many other more or less serious disorders.

"The astronomer Airy, a professor at Cambridge, was the first who corrected the defect by a cylindrical glass (1827). He had high compound myopic astigmatism of the left eye, which he studied and measured by means of a luminous point. Later, Colonel Goulier likewise studied this defect and prescribed cylindrical glasses to a certain number of patients."

"It was only after the invention of the ophthalmometer by Helmholtz that the measurements of Knapp and Donders drew attention to this prevalent anomaly of the human eye." (14, p. 121.)

The correction of astigmatism by the use of cylindrical lenses seems not to have been made in this country before 1872. The importance of correcting this defect, however, was soon recognized and emphasized by Weir Mitchell; but it is only still more recently that the hygienic importance of making tests for astigmatism in the schools has been recognized. Although Javal, the great French ophthalmologist, had shown the significance of the subject, Cohn, even in the second edition of his "Hygiene of the Eye," published in 1892, said that its investigation and diagnosis had little importance for school hygiene.

There are two kinds of astigmatism, regular and irregular. Regular astigmatism is caused by a curvature of the cornea that varies so that one meridian has a greater refraction than another at right angles to it. The irregular form occurs when the same meridian of the cornea or the lens has an unequal refraction in its different parts, that is, the curvature varies. This may be congenital, or due to ulcers, or the like.

Regular astigmatism, caused when one meridian has greater refraction than another, Donders has shown is in most cases due to differences in refraction of the cornea, and that, in the majority of cases, the vertical meridian, and those lying near the vertical, have greater refraction than the horizontal. This has been well illustrated by comparing the ordinary astigmatic eye to an egg, or more accurately, the cornea to the segment of an egg. If we call the meridians running lengthwise of the egg horizontal meridians, and those running

the other way vertical, then the egg usually has a greater curvature on its vertical than on its horizontal meridians. In some cases, however, the horizontal meridians have a greater curvature and hence a greater degree of refraction.

Thus the regular astigmatism is of two kinds: first, the common form, where the refraction is greater in the vertical meridian than in the horizontal, called normal astigmatism; and second, the condition where the refraction is greater in the horizontal than in the vertical meridian, or the so-called perverse or inverse astigmatism. The common form, the so-called normal astigmatism, is that which especially concerns school hygiene.

Regular astigmatism may be corrected by cylindrical lenses; irregular astigmatism cannot be corrected, but may sometimes be ameliorated by stenopaic spectacles. One form of the latter due to disease (ophthalmia neonatorum) could be prevented by proper cleansing of the newborn infant's eyes.

Ignoring exceptions, we may confine ourselves to the usual form of astigmatism, that due to an error of refraction in the cornea of such a kind that the vertical meridians have a greater curvature than the horizontal. The other forms of astigmatism will be found described in the literature.

An especially important investigation of the eyes of school children has been made by Dr. Stocker in Luzern, Switzerland (13). He tested altogether the vision of 2,307 school children, 4,614 eyes. One thousand one hundred and thirty-two of the children were in the boys' schools, 1,175 in the girls' schools. He made his tests with Javal's ophthalmometer. Errors of refraction of less than a quarter of a dioptre were not reckoned. Among 2,307 children only 77 were free from astigmatism in both eyes, that is, only 3.3 per cent of all the children tested had a perfectly symmetrical cornea in both eyes. In case of 185 children one eye was normal. Altogether only 339 eyes were found free from astigmatism.

This does not mean that all these children with astigmatic eyes needed glasses. Most of them could see well, and yet a large percentage were deficient in visual acuity. Of those with astigmatic eyes only 19.5 per cent of the boys had normal acuity of vision and only 21.8 per cent of the girls.

Among Dr. Stocker's conclusions are the following: First, The presence of a normal cornea is determined by no law. Second, only 7.3 per cent of the eyes of school children are free from astigmatism. There are 2.6 per cent more normal corneas among the boys than among the girls. Third, 95.4 per cent of the boys and 97.8 per cent of the girls have an astigmatic cornea on at least one side. Fourth, the average degree of astigmatism among all the children amounts to .91

diopter, the average astigmatism of the boys amounting to .78 d., and that of the girls to 1.5 d. The girls have at all ages a greater degree of astigmatism than the boys. Fifth, the minimum astigmatism of all the school children amounts to .25 d., the maximum astigmatism amounts to 7 d. The maximum astigmatism among the boys amounts to 6 d., among the girls to 7 d. Sixth, perverse astigmatism appears in 1.2 per cent of the eyes of the school children, and is more frequent on the right side, and has a maximum of 2 d.

Many careful investigations have been made for many years by Steiger in Switzerland. At the beginning of each new school year all the pupils of the first class have their eyes tested by the city physician. Any pupil that does not have an acuity of vision equal to 1, or in case of good vision shows some disease or abnormality of the eyes, is referred to Dr. Steiger for special investigation. During the years 1894 to 1903, a total of 25,995 school children between the ages of 6 and 7, and sometimes 7 and 8, were tested. Among these 7,736 were referred to Dr. Steiger for special examination. Of these 5,195 were definitely abnormal and about half of these, namely, 2,406, were astigmatic.

Steiger has studied further the frequency of the different degrees of astigmatism of the cornea among children 9 and 10 years of age in Bern, and children 6 and 7 years of age in Zürich. The largest number of cases in the children 9 to 10 years of age in Bern was for one half a diopter, namely, 25.8%; and three fourths of a diopter, 29.3%. In Zürich the largest number was from 1.5 to 2 diopters, 31.8%; and from 2.25 to 3 diopters, 19.4%.

Specially important are Steiger's studies of the relation of astigmatism to acuity of vision. Astigmatism is, according to him, more frequently the cause of weakness of vision than all other causes; and the relation between astigmatism and acuity of vision is sometimes very striking; for example, in the case of children from 6 to 8 years of age with an acuity of vision of 0.3 to 0.6. Three fourths of the cases of defect here are probably due to astigmatism.

Of the number and seriousness of the cases of astigmatism as shown by his own investigations, Steiger said in substance: The fact that of 12,000 eyes of six, seven and eight-year-old children, 1,570 had more or less defective vision, and that in more than half of all cases astigmatism was responsible, will be to many a new and astonishing fact. He found that among the children of the first primary classes alone in Zürich, in three years, 662 eyes with a considerable or high degree of astigmatism, and over 300 eyes with a high degree of astigmatism.

Steiger found the cause of subnormal vision was astigmatism in case of 61.6 per cent of the boys and in case of 61.8 per cent of the girls. These numbers are high and perhaps would not hold in most other countries, but we have relatively few careful studies such as those made by Steiger.

A long list of diseases and disorders due to astigmatism has been described by many writers.

Martin long ago found that astigmatism was one of the chief causes of nervous headache, that many inflammations of the cornea formerly thought to be of scrofulous origin are due to astigmatism, especially when this is greater than 1½ diopter. The disposition to this is produced by the continuous contraction of the ciliary muscle in making correction for the astigmatism. This causes a disorder in the circulation; and he often found that by making corrections with glasses inflammations of the cornea of the character of eczema were better cured than by medicine. In like manner inflammations of the eyelids and of the conjunctiva are cured by fitting the astigmatic eye with correct glasses.

Since Martin the evil effects of astigmatism in producing headache, nervous disorders, and the like, have become familiar to every oculist.

If practically everybody has at least one eye more or less astigmatic, the question may naturally be asked whether everybody ought to wear cylindrical glasses. The answer is that in many cases correction for the error of refraction is unnecessary.

The astigmatic eye is sometimes compared to an unsymmetrical objective lens in a photographic camera. This must be replaced by a symmetrical objective before the apparatus can be satisfactorily used.

In case of the human eye, however, it is sometimes possible to neutralize the astigmatism. This correction is often made by accommodation of the lens, and again the patient sometimes turns his head to the side in order to see through the correct meridian; and sometimes shuts the lids together in order to receive only the rays of light from the better meridian. If correction can be made in this way, then the eye is likely to be reckoned among the normal eyes. If correction for the error of refraction cannot be made, then the eye is classed among those called weak.

Nature uses more or less of a hit-or-miss method in regard to structure and then provides the power of correcting for defects and errors within certain limits.

As Stocker says: "We see here again how nature seldom applies pure mathematics in her work, but likes to leave it to the organism to neutralize the defects of the organ by the

self-regulating activity of physical function. In cases of slight astigmatism, and in cases of considerable hyperopia, the visual organs can compensate for the error of refraction and bring about normal vision. And in other cases they can sufficiently compensate for the errors to give good vision if not normal acuity." (13.)

The practical question is what degree of variation should be considered within the limits of the normal; and here again it all depends upon the individual; and the question of what degree of variation from the normal should be corrected by the use of glasses is, especially in case of astigmatism, an individual question. Sometimes a relatively slight degree of astigmatism causes headache and perhaps other unpleasant symptoms.

The presence and degree of astigmatism in a student's eyes is a specially important condition affecting the ability to do mental work. Not only as perhaps the most important receptor organ, but as an important part of the brain itself, the hygiene of the eye is specially important to the brain worker; and an optimum condition of refraction a most important condition of efficient brain activity. This has been emphasized by the results of recent investigations.

Dr. Gould (4) has attempted to diagnose the troubles of a group of literary men and men of science; and it is his belief that Carlyle, Darwin, De Quincey, Huxley, George Eliot, Wagner, Herbert Spencer, Nietzsche, and a number of others, owed their headaches, depression, and nervousness to eyestrain, and that all had astigmatic eyes. In spite of exaggerations, he has collected important evidence of the importance of normal refraction for the brain worker.

Dr. Gould gives a very interesting account of De Quincey as a case of nervous disorder due primarily to eyestrain; but the one thing to be noted in this, as in most of the cases cited by Dr. Gould, is that he makes the whole matter too simple. The man with a horror of narcotics finds that all of De Quincey's troubles were due to the use of opium; he would be an unimaginative psychoanalyst who could not explain them by morbid mental complexes; and, if a dentist were to study his biography, perhaps he would find that his indigestion and nervousness and the rest were primarily due to his bad teeth, just as Dr. Gould finds the cause of every trouble in the reflex ocular neurosis. There may be little doubt that the last mentioned defect was one of the causes; but it may fairly be questioned whether the use of opium, the bad teeth, and perhaps several other factors may not have contributed.

Darwin is one of the men studied especially by Dr. Gould.

The great naturalist, it is said, was unable to work more than three hours a day, and reading was especially trying to him. Dr. Gould has collected many significant passages from his autobiography that indicate that he suffered from astigmatism. Among these are the following: (4)

"German was a great labor to him; in reading it he could read very little at a time. He called it the *Verdammte.*"

"Anything attempted beyond the regular routine was attended with pain and difficulty."

"At 36 he had not a day, or rather a night, for three years without great stomach disorder, most days with great prostration of strength. He became so alarmed that he believed he should die, and made 'a solemn and last request.' Trembling of the hands and 'swimming' of the head were added to the other symptoms in 1838, whilst severe headaches were alluded to at the age of 51. If it was possible for a worse than usual to exist from the age of 30 to that of about 57, it was when he was putting the 'Origin' through the press at the age of 50. At the completion of that hurried work, he was in a deplorable condition. . . . Reading at 20 and 21, we remember, made him have 'spirits for nothing,' 'disgusted him so he had not the heart to write anybody,' made him 'miserable before and after,' etc. Such allusions constantly recur, e. g., at 30 he 'read a little, was much unwell;' at 36, 'slaving (writing) extra hard brought great discomfiture of wretched digestive organs;' at 37 'abominable press work' prevented him from writing, being unwell; at 45, his 'stomach deadens his former pure enthusiasm for science and knowledge;' at 49 his stomach 'got into a horrid state from overwork;' at 50, 'health failed, cannot look over any proofs;' he is 'wearied out,' 'worn out,' 'weak as a child,' etc., with proof-reading. At the completion of the 'Origin' he was in an awful state of stomach, strength, temper, and spirits; 'my confounded book half killed me.'"

"The loss of accommodation ended the life-long struggle of the ciliary muscle to overcome the compound hyperopic astigmatism of his eyes, the existence of which will alone explain the mystery of Darwin's ill health. His symptoms, vomiting, and other functional digestional disorders, insomnia, vertigo, headache, apathy, and neurasthenia, are precisely those which the best American oculists find are the most common symptoms of this refractive anomaly of the eyes. Every fact concerning his health, and, indeed, almost every day's experience during his life demonstrated that use of his eyes at near range produced these symptoms."

One of the most remarkable cases studied by Dr. Gould is

that of the German musician Wagner. Dr. Gould has quoted at great length from Wagner's writings and given good evidence that this great musician was a sufferer from astigmatism.

Of a dozen distinguished men, the first group studied by Dr. Gould, De Quincey, Carlyle, Darwin, Huxley, Browning, Spencer, Mrs. Carlyle, Whittier, Margaret Fuller Ossoli, Nietzsche, George Eliot Lewes, and Parkman, Dr. Gould says: "Some of them had some of the symptoms all of the time, some had all of them some of the time, Wagner had all of them all of the time."

The noteworthy thing was that each one of these twelve found the only relief consisted in stopping reading and writing and in outdoor exercise. In the case of Wagner the symptoms were exaggerated, and the relief that came to him when he stopped using his eyes was marked. At the age of 35 he felt "too old" for undertaking great works; he suffered from great depression, especially in the winter, when of course naturally there was more confinement in the house and probably more reading and writing. Gould has summed up his symptoms very tersely in the following passage:

"Hundreds of such expressions as the following could be gathered: 'If my head were but better;' 'I shall go mad;' 'the sharp knife cutting into the nerves of my brain;' 'feverishly tired in all my limbs;' 'even this letter almost knocks me down;' 'I *mustn't* write, because I can't;' 'my head is nigh bursting;' 'every letter knocks me terribly up;' 'the nerves of my brain are so racked that I have had to give up all writing and reading for a while;' 'I even work a *little* hour a day now;' 'a short hour a day now off and on;' 'I shall shortly go crazy;' 'letter-writing, I am now convinced once for all, severely taxes me, and you therefore may flatter yourself if I manage to fill even this sheet of paper;' 'completed my work very much exhausted;' 'from noon till bedtime I never write another line;' 'writing a longish letter prevents all other work that day;' 'I must stop, my head's getting bad;' 'even these few lines put me in a state of violent excitement;' 'I ought to give up all reading and writing;' 'even the shortest letter wearies me terribly;' 'my work has been a perfect torture to me;' 'this eternal communication by letter and print is terrible to me;' 'my terrible melancholy;' 'my nights are mostly sleepless;" as soon as I bend my head toward theory the nerves of my brain begin to ache violently and I feel quite ill;' 'truly writing is misery, and men of our sort should not write at all;' 'the *Rheingold* is done, but I also am done for;' 'this having to make a clean copy kills me;' 'I begin to perspire and can write no more;' 'the proofs are

lying on my table for seven weeks;' 'farewell, I must stretch myself full length on the divan and close my eyes.'"

As clearly shown in one or two of the portraits of Wagner his left eye is turned outward and upward. This, according to Dr. Gould, is a result especially of astigmatism and anisometropia.

Wagner's chief symptom was sick headache, nervous headache, or the like; and of this Dr. Gould says: "I have had thousands of patients with this disease and 99 out of every 100 were cured by spectacles."

Wagner was drugged, given the hydropathic treatment, and so on; but all his physicians seem to have failed to recognize the real cause of his trouble. Even if they had recognized it, no oculist at that time could have corrected the trouble. Additional evidence that Dr. Gould is right is furnished by the fact that at the time when presbyopia was established Wagner found relief, and the sick headaches, melancholia, nervousness and insomnia, and the like, ended, not because of the aid of the King of Bavaria, but because he did not thereafter suffer from eyestrain.

It is unnecessary to multiply examples. Why should such serious results follow from the overstrain of the little ciliary muscle? We can hardly suppose that it is due to toxic products formed by the continuous contraction of the muscle; it must obviously be something more than this. The ordinary idea that the simple ordinary reflexes due to eyestrain cause the unpleasant effects is probably in large part true; but it is doubtful if this by any means represents the whole truth. The study of the conditioned reflexes suggests another factor which may be significant. While we must be on our guard against sweeping inferences, it does not seem improbable that some of the serious disorders in case of the noted brain workers studied by Dr. Gould were due, in part at least, to conditioned reflexes caused by the presence of uncorrected astigmatism.

To recall the main fact, the sensation from any receptor organ may become a conditioned stimulus for a conditioned reflex. We do not have positive proof as yet that conditioned reflexes are formed for the adrenal and other glands with internal secretion in the same way that they are formed for the salivary glands, but we have reason to believe that this is true. Assuming this, let us see what would naturally happen in case of a person who does near work, and especially literary work, when handicapped by an uncorrected error of refraction.

In the case of men who become distinguished in literature or science, usually their work is done with enthusiasm and

not infrequently with considerable emotional stress. All such emotional states, as we know, act as direct stimuli to the adrenal glands, and we know not what other glands with internal secretion.

Now in the cases in question, whenever the individual is engaged in this intense work and is excited, and has the emotional stress, at the same time there is the eyestrain. Inevitably the sensation of discomfort from the eyestrain becomes associated with the emotional state. In other words it becomes a conditioned stimulus, and is able to bring about the secretion of the glands as a conditioned reflex. We see at once the serious effects that will occur as soon as this conditioned reflex is established, because the secretion of the glands will occur whenever this eyestrain is felt.

If this theory be true, then we have this cycle of events. First the excitement and enthusiasm and emotional stress of work, eyestrain caused by the errors of refraction, the discomfort of the eyestrain becoming associated with the emotional stress and excitement as a conditioned stimulus, the continuance it may be of the secretion of adrenalin after the direct stimulus, the excitement of the work, is over, and chronic indigestion with its accompaniments of so-called biliousness, dizziness, mental depression and the like, resulting from the increased flow of adrenalin brought about as a conditioned reflex to the eyestrain.

Ordinarily when one stops one's intellectual work the excitement and emotional stress associated with the work soon ceases. But if a person has continuous eyestrain, and this sensation of discomfort from the eyes has become a conditioned stimulus, then when one gives up the work, when the stimulus of the excitement is over, instead of resting, and instead of the glands dropping back into their normal condition, they continue to function because the conditioned stimulus, the eyestrain, persists.

While these may not be the facts, something of this kind is suggested by modern studies. If these are the facts, then we should naturally expect to find that a man with eyestrain and the serious results that follow, indigestion and the rest, would be all right as soon as he leaves his work and goes away into the country, or the like. This is precisely what is found to be true in many cases. Dr. Gould has given a number of examples from the group of distinguished men studied by him.

As regards Huxley, Gould makes out a pretty good case. He was usually knocked out after a few days in London, but all right when he went to the country and began taking exercise.

"In 1857-1858 his health was greatly tried. Headache! headache! is his repeated note. There are many entries such as the following: 'Used up,' 'hypochondriacal and bedevilled ' not good for much,' 'toothache, incapable all day,' ' voiceless,' ' missed lecture,' ' unable to go out.'

"Lassitude and depression seized him, and Clark ordered him to quit all work. He resigns his government positions. By May he was 'in a disgusting state of blue devils,' although there was really nothing the matter, and a month later he was worse—' blue devils and funk, funk and blue devils. Liver I expect.' "

He was so improved by a single day in the country that he said, "I can hardly believe that I felt so ill and miserable 24 hours ago." Medical treatment did him no good, but walking in the open air and giving up study, reading and writing, gave him relief.

"At about the age of twenty-one, excessive ocular labor brought on ' a sort of ophthalmia ' which prevented him from reading at night for months. During the four years of the cruise of the *Rattlesnake* there was no complaint of ill health, as in Darwin's case, also there was no eye-strain or not enough to cause it. On his return to work on shore at the age of twenty-six he was soon thin and ill, and at the age of twenty-seven he could not read before breakfast without resultant headaches for the rest of the day, so that, after an illness, he ' reformed ' his habits and went to bed at midnight, and arose at 8. Nothing now checks the reign of the mysterious dyspepsia, liver affection—stomach.

"It is certain," says Dr. Gould, "that our patient had farsighted astigmatism at least of one or two diopters (compound hyperopic astigmatism), probably with a difference in the refractive error of the two eyes (anisometropia); perhaps he had also some lack of balance of the external ocular muscles (heterophoria) and almost certainly he had good or normal acuteness of vision of the two eyes." The noteworthy thing is the distress that came from near work and the relief from giving up reading and the like.

Another result also might naturally be expected. If by the use of proper lenses the eyestrain is removed, or when in the case of a person with hyperopic astigmatism or the like one reaches the age of 60 or 65, when the ocular strain ceases, then the evil effects of the conditioned reflex ought to disappear also. This again we find to be the case. Correction of the errors of refraction remove these disagreeable symptoms, and many of the persons studied by Dr. Gould have in their later years been largely free from the physical disorders they suffered earlier in life.

Of Darwin, Dr. Gould writes: "During the last ten years of his life, the condition of his health was a cause of satisfaction and hope to his family. His condition showed signs of amendment in several particulars. He suffered less distress and discomfort, and was able to work more steadily." And of Huxley he says: "At the age of about forty-nine he got some respite and for about ten years there was far less complaint. But from the age of 59 to 64 his old troubles and some new ones brought him much grief. With the establishment of complete presbyopia at 63 or 64 there was no further complaint."

In children conditioned reflexes in connection with the eye are probably formed in many cases, and the child with an astigmatic eye is probably frequently an illustration of this. A single concrete case may be cited by way of example.

The following is a typical case of astigmatism reported by Dr. Brave (3):

"Jan. 1. Girl, aged 10 years, rather delicate and pale looking. . . .

"Present condition: Child is always nauseated, is dizzy, has headaches and vomits every morning, often twice daily. The child of ten gets dizzy, changes color, turns white; sits down, the eyes roll upward, and the hands show convulsive movements. . . . There is no gastric pain, epigastric distress, or sensation of fulness in the epigastrium. . . ."

Experiments showed she was astigmatic in both eyes.

"Full correction was given and the child was kept out of school for two weeks. March 20th the child was reported perfectly comfortable, with no attacks of vomiting, vision with glasses was normal, and headaches occurred only occasionally."

In such cases it seems natural to suppose that both ordinary and conditioned reflexes are involved. The removal of the abnormal stimuli by suitable lenses effects a cure.

Conclusions

The important things to be remembered in regard to astigmatism are the following:

(1) Astigmatism is caused chiefly if not entirely by inherited peculiarities of the cornea or the lens, usually of the cornea.

(2) Everybody almost has some degree of astigmatism; more than 90% of all eyes, probably more than 95%, are to some degree astigmatic.

(3) Astigmatism is the chief cause of defect of vision in probably more than 50% of the cases.

(4) Astigmatism is the cause of all sorts of disorders and unpleasant symptoms, eyestrain, headache, indigestion, etc.

(5) Children should be tested for astigmatism at the beginning of school life. The common practice of testing for other defects of vision and not for astigmatism is very unfortunate.

(6) The question of correction for astigmatism by the use of proper glasses is always an individual one, depending upon not only the amount of astigmatism, but also on the general health of the individual, the amount of work that must be done, and so on.

(7) In many cases perhaps the eyestrain of astigmatism becomes a conditioned stimulus for various unpleasant nervous and mental symptoms. The distress experienced by many literary men, in such work as reading and writing, may well be due in part to conditioned reflexes developed by the eyestrain connected with the work. This is probably the reason for the great benefit resulting from the correction of even a very slight degree of astigmatism in some individual cases.

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PHYSICAL TRAINING AN ESSENTIAL TO THE BETTER HEALTH DEFENSE OF SOCIETY*

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Good health—good, active, aggressive health—is the most important thing in this world.

If you want some first-hand original information concerning the importance of health, go ask the man that has lost it. If you want an experienced estimate on its value, go to the woman that is trying to buy back the health she once had.

I suppose there is no family in the world that has not at some time or other experienced the mental, physical or economic losses that are due to poor health, preventable disease, or postponable death; and I suppose there is no individual in this world that has not or will not sooner or later feel those losses himself.

Good health is the most important thing in this world, not only for its own sake but for the larger reason that the full and complete measure of the success of every human enterprise depends upon the quality and endurance of the good health that supports it. The measure of your success depends upon the sort of health that backs up your enterprise, whether it be mental, moral or physical.

Have you ever thought over what the world loses every year—every day—because of poor health, avoidable disease, and premature death? The slaughter in the great war now raging in Europe has shocked us beyond expression. But every year of ordinary peace brings the world a greater unnecessary death rate and a greater preventable morbidity rate than accompany this great war. The ravages of weak health, of preventable disease, of postponable death are greater, far greater, year in and year out, than the ravages of this awful war. There are about 3,000,000 people sick in these United States in any given day. Something like 1,500 persons die daily of preventable disease in the United States. A comparatively small part of the earth's population is in this country.

*An address presented before the Associated Academic Principals, State of New York.

I can't estimate the economic losses that occur daily or yearly because of inefficient health and unsuccessfully resisted disease. Great economists have tried but their estimates can never even approximate the real loss.

There are other losses of greater importance than the economic losses. They are world losses in intellectual output; losses in public service; losses in ideal commercial, professional, educational and religious progress; and, greatest of all, losses in human happiness—which follow this world-wide careless waste of human health and human life.

You must easily recall the names of great men whose usefulness to this country, or to some other country, and through such country, to the whole world, would have been continued at least for the period of an average life time had they been protected in health.

I do not know intimately very many communities represented here to-day. Perhaps I am not very well acquainted with a single one of the communities which you represent. But I know that no community exists or ever did exist that has not a long list of useful, public spirited citizens whose importance and value to the community was limited or cut short through poor health, preventable disease and postponable death. Your communities must have had such experiences.

If there were some way to save this human resource; some way to conserve these community assets for longer periods of time, would there be a community anywhere in this world that would refuse to go to any extreme for the purpose?

What would you not give if your father at sixty were as robust and active as Mr. X at eighty? What would you not give if that child of yours could have had enough vigorous health to have recovered from that last illness? What would you not give—but I need not ask—you know! I know!

Suppose there were some way in which you could reduce absences on account of sickness in your schools. Suppose you could secure an influence that would relieve your teachers of depressing, deadening fatigue and keep them off the sick list, would you be interested?

Nations, states, cities and even smaller communities, realizing the value of this human resource, have accomplished a remarkable progress in the prolongation of human life and in the reduction of poor health and the restriction of certain forms of disease. Morbidity rates are enormously decreased. The average duration of human life has been doubled in comparatively recent years. Wherever scientific knowledge and community resource have been brought together, we have found it possible to buy more health and longer life. Some years ago, in 1900, I believe—it was shown that the average

age of the rich Frenchman at death was fifty-seven years, while the average age of the poor Frenchman at death was thirty-seven years. The difference was—and is—due, not to the mere possession of wealth, but rather to the purchase by the rich of better sanitation and more effective protection from preventable disease.

Larger communities and more intelligent communities, have invested their capital in health protective measures and those investments are yielding large profits. I need only refer to Havana or Panama or to any one of a number of larger American cities to illustrate my point. Greater advance can and will be made along those lines but there is a limit beyond which the community cannot go unless it goes as a community of intelligent individuals of whom practically every one—not a bare majority, not a two-thirds majority but a near unanimity —practices regularly intelligent habits of health acquisition and habits of health conservation. There is a point or a line beyond which the power of community law and the might of the community's dollar cannot go without the help of community education. Beyond that line lies a region that can be reached only through the health education of the individual members of the community. That education must begin in childhood and it must be continued through the elementary and secondary school age. It must be an education for the fixation of intelligent health habits that will be practiced throughout the life of the individual.

Organized society may purchase the extinction of the malarial mosquito. It may buy the eradication of the yellow fever mosquito, the rat of bubonic plague, the tick of spotted fever, the fly of sleeping sickness or the louse of typhus fever or of trench fever. Organized society may buy clean pure water and it may purchase a successful food inspection. But it cannot buy habits of personal hygiene that produce human health; that defend the individual from disease and postpone his death. It cannot purchase health habits that give the individual resistance to disease, making it harder for him to become sick and easier to recover. It cannot purchase the personal consciousness of individual obligation in the health affairs of the community that is essential to an effective defense of the community health.

We have two ways in which we may successfully defend human life against poor health, preventable disease, and postponable death; two ways in which we may save our children, our kinsman, our countrymen and mankind in general from these merciless enemies of life, prosperity and happiness.

On the one hand, society may, and does, enact and enforce laws for the defense of the public against the insect, animal

and human carriers of disease. It may and does provide opportunities for the community practice of health habits. In these and various other ways the community spends its resource and applies its scientific knowledge for the protection of human health and vitality through a control of environment and through a police supervision of social activities.

On the other hand, society may provide opportunities for public instruction in the principles and practice of health. It may offer school experience that lead to the establishment of intelligent health habits in school children and it may establish laws which make better health education mandatory.

Both these types of defense are essential to the safety of the public health. Neither one may achieve success without the other. Community hygiene depends on personal hygiene and personal hygiene is helpless in the absence of community hygiene.

It is only through a combination between organized community activity and intelligent, educated, individual support within the community that society may defend its health. The individual who acquires health habits, renders a community service.

We have here in the State of New York various sane and intelligent legislative enactments for the health defense of the commonwealth. These laws are being operated more or less effectively but their real use, their greatest value, will come only when the people of the State are possessed of a sufficient health education to enable them to understand, appreciate and co-operate with the State in its plans for the acquisition and conservation of human resource.

The health laws of the State to be effective must be supported by a people trained to understand and trained to obey these laws. The hygiene of the State as a whole cannot be better than the hygiene of the people who make the State. An effective physical training of the individual is then a contribution in the service of the State.

The legislature of this State in its session of 1916, went farther in this direction than it has ever gone before. It went farther than any other State legislature has ever gone to bring community hygiene and individual hygiene together. The legislature enacted laws which now make physical training mandatory for all the children in our elementary and secondary schools.

The legislature gave us a program of physical training that is now a part of the rules and regulations of the Regents of the University of the State of New York. This program is a plan for the health education of our children which the State Department of Education is obliged to supervise; it is a pro-

gram which the schools of the State are obliged to operate; and it is a program whose operation the State Military Training Commission is obliged by law to inspect.

If you make this program effective in your school, you will thereby add to the health intelligence and the health habits of the individual members of this great commonwealth and you will meet your serious obligations to the health welfare of your pupils, your teachers and your community. And it will follow —it must follow—that the public defense against poor health, preventable disease, and unnecessary death, will become enormously more effective. It is the only way in which the defense may be made truly effective. If every school child is taught habits of health, every citizen will soon practice these habits. Our State laws on health will no longer lack the support that is essential to their success. An army will be added for the protection of the State in which every man, woman and child in the State will be trained for offense and defense in the campaign of the commonwealth against the enemies of its health, vigor and happy longevity.

The State program on physical training now before you is made up of three main divisions. These divisions are essential to the completeness of any effective plan for health education.

The first division deals with health examination—that is—with medical inspection. Personal health is on the average impossible in the absence of regular individual health examinations and consequent attention to the special health needs revealed by the examination.

The second division of the State program covers the instruction of the school child concerning the care of the body and the laws of health. With the successful development of this instructional relationship, we should be able in time to secure an intelligent understanding of the laws of health and therefore intelligent standards, intelligent co-operation, and intelligent aggressiveness on the part of society in its relation to the health problems of the community. The children you teach to-day will be influential voting citizens to-morrow. The health intelligence of the community to-morrow, therefore, depends on what you teach to-day.

The third division of the general plan is concerned with the establishment of health habits; particularly with habits of physical exercise for the various mental, moral and physical benefits that may be secured from such habits. Physical exercise in its various forms is perhaps the very greatest health habit we possess. Unfortunately, too many of us never learn the habit. If this State program succeeds there will appear

a generation of citizens who will practice useful habits of active recreation.

The general program of physical training is now contained in the rules and regulations of the Regents. It includes the mandatory requirements of the State concerning health education.

The more detailed syllabus that accompanies the general program indicates to the individual school the various ways in which the general requirement may be met. As a rule, the syllabus contains a choice of programs under each division with additional instructions to the effect that the individual school may submit, if it desires, a syllabus of its own in conformity with the general program of physical training. If this syllabus so submitted meets with the approval of the Regents, it may be put in operation by the school authorities concerned.

The State program and its elastic syllabus for the rational application of its general plan of health education is before you.

You will find many obstacles in the way of rapid application but you will never find an obstacle that is worth permanence. Sooner or later, every interference with the operation of this program in its general scope must disappear. No people were ever given a greater or more significant opportunity than our State has here given us. We must get together and realize that opportunity.

Two million children fall under its influence to-day; two million lives may be prolonged; two million future citizens may be saved the loss of working days, of income, of productivity of civic and military usefulness and of happiness. And each year a new army of untrained children will come to you for health education. You can make these lives more useful and more enduring. Here is the way.

PRELIMINARY OBSERVATION OF TEACHING

W. W. Charters, University of Illinois

During some fifteen years and some seventy separate attempts in which the writer has been engaged in trying to find short cuts for teacher training students through the mazes of the theory and practice of teaching, the most baffling problem that has been recurrently encountered has been that of the efficient use and administration of the observation of teaching. In potential and actual value it is recognized as being second only to practice teaching; but the methods of using it economically are continually met by almost insurmountable obstacles such as large numbers of observers, conflicting programs of studies, inadequate facilities, and monotony of observation.

There is, of course, no single specific that can remove all the difficulties; but in later years the writer has come to place increasing reliance upon what may be called preliminary observation as a supplement to the other forms of observation. And since a rather careful examination of the literature fails to reveal a description of this specific, he takes the liberty of giving a brief analysis of the method.

There are at least three forms of observation. Of these the most frequently used is illustrative observation. The plan of administration is to first teach a group of methods and then to give the teacher training student the opportunity of seeing the methods illustrated in the classroom. This observation may be of two types. The teacher may have observation lessons taught immediately after each principle or group of principles has been developed; or, the students may be assigned to observe a class during a more or less extended period of time after the methods-of-teaching course has been completed. In many normal schools and colleges of education a period as long as six weeks or more is utilized for this latter purpose. But both the types are similar in that the methods are first taught and then the teacher training students are given an opportunity to see them illustrated in the practical handling of classes.

That these types are in such universal use is evidence of their value; but certain weaknesses are apparent to all teachers of methods. They call for the identification of principles,

a sort of cataloguing and pigeonholing of classroom procedure, an interpretation of this bit of procedure as an illustration of one principle and that bit as an illustration of another. The unfortunate feature of this procedure is the fact that it involves a low level of thinking and attention. Since the teacher training student already knows the principle or the principles that he is expected to find, the observation soon grows monotonous and it frequently seems impossible to elicit enough thinking to keep the mind occupied. This is especially true of inexperienced teachers over whose head much of the subtler technique of artistic teaching passes unchallenged and unnoticed. So slight may the vitality of attention sometimes be that often, as any critic teacher can bear witness, the teacher training student, thinking that he knows what to expect, frequently reports the presence of a method which has not been employed.

A second form of observation that is used, though it is rather an attitude than a method, is critical observation. In this case the teacher training students observe lessons as critics would. They are concerned with both the observing of how a principle is applied and how efficient is its execution. This is a disastrous attitude for both the inexperienced teacher training student and the demonstration teacher; for the former has little basis upon which to judge of the success of the application since he has difficulty in seeing the application at all and thus he is likely to become a superficial snob who nonchalantly passes judgment upon teaching which he himself could not possibly equal. In the demonstration teacher this attitude, once it is realized by him, produces unnecessary strain if he is conscientious and humble, and irritation, suspicion, and antagonism if he is high-spirited and self-reliant.

Critical observation is of immense value to the observer who has passed through the ordeals of practice and who appreciates artistic teaching and the opposite when he sees it; and there must, of course, be some weighing of the success of a method in all observation. But immature teacher training students should be sedulously protected from the experience of watching teaching so poor that it has to be condemned. They should have the attitude of learners rather than critics.

The third form of observation is that referred to as preliminary observation in the opening paragraphs. It differs from both the foregoing forms in that instead of observing a lesson to see a principle illustrated after being learned, the teacher training student observes a lesson to discover a principle before it has been taught. This is the multiproblem method of teaching: the students are given a complex of problems the solution of which they are to work out for them-

selves. Observation in this form becomes an exercise used as a preliminary to the teaching of the theory.

The method used consists of six steps arranged in the following order:

The first step is the formulation of the principles to be taught. The teacher reads the references he is expecting to assign and from them selects those few important ones he expects the teacher training students to thoroughly master. These may be general or special methods of teaching, rules of educational psychology or facts of school management.

When the teacher formulates these items for himself he, of course, does not communicate them to the class since the object of the obesrvation is to have the teacher training students discover them for themselves. They serve two purposes for the teacher: they clarify his own objectives and they serve as a basis for his observation questions.

As an illustration of this, I select a series of reports by Superintendent Guy H. Capps (of Bolivar, Missouri) of work with his high school teacher training class.

The lesson was on the Technique of Story Telling. The reference used was Chapter IV of Bryant's *How to Tell Stories*. After reading the reference he decided upon the following points:

1. Know and appreciate the story.
2. Do not memorize the words of the story except certain important phrases.
3. Secure proper physical comfort, naturalness, proximity to the teacher.
4. Get into the mood of the story.
5. Keep the voice quiet and controlled.
6. Tell the story simply, directly, dramatically and with zest.

The second step is the formulation of a few observation problems, or, questions for the solution of which the teacher training student studies the methods of the demonstration teacher. To formulate these most efficiently is a difficult task. They need to be definite and clear. They must not be phrased so that the questions suggest the answers. In brief, they are subject to all the difficulties of oral questions and to the additional handicap of permanency, for once they are given to the pupils they can not be changed when they do not bring the correct result. It is found in practice, also, that even with the most skilful questions, the principles are sometimes, though not usually, difficult to discover.

The questions should be dictated and explained to the

teacher training students when the assignment is made and the teacher training students will benefit by studying them so as to be thoroughly familiar with them when they observe the class. Often it is wise for the questions to follow some order other than that in which the teacher has formulated his methods as described in step one.

Superintendent Capps in the report just referred to formulated the following observation problems for his students:

1. Notice how the pupils are arranged? Why?
2. Notice the tones of the teacher's voice as she tells the story.
3. What seems to be the teacher's feeling toward the story she is telling? How can you tell?
4. How familiar is she with it?
5. Does she seem to have memorized the story or any part of it word for word?
6. Does there seem to be an "atmosphere" with the telling of the story? How is it secured?
7. Notice the manner in which the story is told.

(a) Is there "pep" in the telling of the story?
(b) Is the vocabulary suited to the children?
(c) Notice the amount of explanation of the incidents thrown in.

The third step is to arrange for a lesson by a demonstration teacher. The purpose of this lesson is to apply the principles to be discovered by the teacher training student. The purpose of the preliminary consultation with the demonstration teacher is to explain exactly what is desired of him. To this end it is found useful to provide the teacher with a copy of the formulated principles and of the observation questions.

The selection of both the demonstration teacher and the specific lesson to be taught is an important part of the plan. Usually the teacher knows which demonstration teacher can best illustrate the technique to be taught; some excel in one type of work, others in another. The selection of the lesson is difficult in many subjects because not all lessons involve the use of all the methods, and only those lessons can be taught which the children are prepared to study. Sometimes it is necessary to observe more than one lesson to get the full range of use of the methods to be studied and sometimes to observe more than one demonstration teacher handle the material.

The fourth step is the observation of the lesson. The demonstration teacher attempts to apply the methods, the teacher training students watch the teaching to discover the methods, so as to be able to answer the observation questions, and the

teacher is in this case an active observer who stores his mind with the details of the lesson for use in the later discussion.

After the lesson has been taught, it is found beneficial for the teacher training students to ruminate upon the lesson and formulate answers to the questions in preparation for the class discussion. These are usually phrased in untechnical and inaccurate language but they serve a very useful purpose in that they form a good basis for later refinement.

The fifth step is the class discussion of the answers to the questions. In the discussion of the questions one by one it is found that some bright students have usually discovered the methods and average students discover a majority of them if the questions have been well phrased. But for purposes of formulation and the clearing up of difficulties each question usually requires some elaboration and discussion. The usefulness of the blackboard for exact formulation and systematization of the rules is obvious and it is found satisfactory for the formulation to be copied in note books.

It may be of interest to note that in a formal study of the ability of a high school teacher training class to detect the principles formulated by the teacher in advance, Superintendent Capps found that in five lessons taught with preliminary observation, involving the teaching of 27 points, 15 were discovered by the class as a whole and the other 12 had to be developed in part and that in five other lessons involving 31 points most of the points were discovered by the teacher training students though formal record was not kept. He is of the opinion that with more careful formulation of the observation problems the percentage of discovery could be materially raised.

The last step is the assignment and discussion of those textual references from which the teacher originally drew his formulation in the first step. The object of this lesson, for the teacher training students, is the verification and elaboration of their discovered principles. They approach the text with a point of view quite different from those who have not had the advantage of the preliminary observation. They do not study a theory of which they have now for the first time heard; they read material with whose substance they are already largely familiar and they look upon the textbook writer as a systematizer and compiler of what they have seen in practice rather than as a wizard who places materials before them of whose origin and previous existence they are blankly unaware.

The limitations of the methods of preliminary observation should be mentioned. It works only, or best, with teacher training students who are almost completely unacquainted with pedagogical theory; for the student who has a knowledge

of theory will know what to look for and will miss the joy of discovery. If used as a universal method of approach it may become formalized. If, for instance, the method is constantly used, the teacher training student who works for grades and quick results and does not appreciate the pleasures of discovery may read ahead and get the principles from books either before or after the observation lesson and before the class discussion. Moreover, it is difficult, though not impossible, to find suitable illustrative lessons just at the time they are needed.

But the advantages of the plan as a variant form of observation within the limitations described make its frequent use advisable. The foremost advantage is the fact that it gives the teacher training student the advantage of approaching the subject as an investigator who in a vital manner feels the joy of discovery. This increases appreciably the level of his efficiency and produces the resultant satisfaction which develops self-reliance and initiative. Of almost equal importance is the fact that for those who are not bookish in their attitudes the material for study is, thus, widened so as to include not only books, but children and demonstration teachers and actual classroom procedure. It thereby makes a strong appeal to certain practical and motor-minded teacher training students who are eager to do the work of teaching rather than merely to study about it. And it steadies the practical operations of such students by teaching them to analyze classroom procedure and tie it up with interpretative principles and methods. It also makes the mastery of textual material easier because the teacher training student after preliminary observation reads the text with considerable familiarity with the items the text discusses. And, finally, it is economical of time. Superficially it would seem that time is lost if three lesson periods are consumed in observation, discussion of the observed lesson and later discussion of the text, when perhaps two would be used if the text were first assigned and discussion and observation followed. But, essentially, the hold upon the subject matter is increased in greater proportion than the difference in time indicates; and the text can frequently be covered in enough less time than would be used if it were studied *de novo* to neutralize even the superficial loss of time.

MILITARY TRAINING IN THE PUBLIC SCHOOLS

By Ping Ling

In these times of unparalleled storm and stress when all the national resources are being mobilized and all the public institutions are either requisitioned by the government or are themselves changing and reshaping their policies for the prosecution of the war, the educators in this country are constantly facing the problem: What can the public schools do in aiding the nation in this gigantic struggle? "We must win the war" is the sentence that springs to every lip and quickens the beats of every heart. But what can the schools contribute toward winning this war is the question which is pressing for answer.

Of all the war measures in which the schools can possibly take part, military training for the youth before he reaches his military age is a very important one. It is one which involves a great diversity of opinion among those who have been giving serious thought to the problem. The term military training is very elastic in its meaning and can be conceived by different people to mean different things. It is used alike by those who would like to turn the public schools into actual military camps and by those who would advocate the policy of giving the boys a broad physical education so as to enable them to become efficient soldiers later on when such general training is supplemented by technical military drill. Most of the pros and cons on this important problem are due to the different conceptions of the term rather than the uncompromising attitudes of those who discuss the two sides of the issue. The difference of opinion centers on the means and methods by which military training should be provided rather than its aim—which is to prepare the youth for efficient citizenship in peace or in war.

In collecting data on this important subject the writer has included in the questionnaire referred to in the other chapter the following question:

Have you military training in the high school, and if so, what, and how much time is given?

In addition to this questionnaire the writer has also endeavored to collect all the laws enacted or any bills being considered by the different state legislatures on this problem.

At the time of this writing very few states in this country have had any law concerning military training in the public schools, and only one state has made such training compulsory for all able-bodied boys of certain age who are now receiving free public instruction. But from the returns of my questionnaire we find that in practically every state of the Union there are at least some cities which provide an elective course of military instruction for a sufficient number of students who wish to take it. The kind of instruction offered and the amount of time devoted to it are of such diverse nature that it would be impossible to present them in full without greatly lengthening this chapter. For this reason I choose to present here only the salient features of the laws and practices which we find elsewhere in this country.

I. Laws and Practices of Military Training in Different School Systems

Roughly speaking, the laws and practices of military training in different school systems can be classified according to the narrow and broad interpretations of the term military training. When it is taken in its narrow sense, it means that kind of training which consists of a few drills in each school week in the manual of arms and close-order formation. The kind of military training which we find in the public schools is very commonly of this type. When military training is taken in its broad sense, it means that kind of training which may not include military drill and yet whose main purpose is to give the youth such an all-round physical, moral, and mental development as to make him capable of rendering service to his country, either as a private citizen, or, after a short period of intensive drill in the training camp, as an efficient soldier. It is upon this distinction that the discussion in this chapter will be based.

1. *Laws providing military training in the public schools:* With only one exception the laws of the different states concerning military training are based on the narrow meaning of the term.

Arizona—A law providing for the organization, control and equipment of the state normal and high school cadet companies was enacted last year. The law provides:

a. The male students of any state normal or high school having thirty or more such students, fourteen years of age or over, shall be organized into a cadet company or companies.

b. The cadets shall be drilled in accordance with the drill regulations prescribed by the United States army.

c. Target practice shall constitute a part of the instruction to be given.

d. The training shall not exceed one-half hour each day.

e. For the organization and supervision of this work a Normal School and High School Cadet Commission shall be created.

Indiana—In March, 1917, the State Legislature passed a law regulating the system of military training but making no specification of the kind of training to be given. The two main points of the law are as follows:

a. Whenever a high school in the state institutes a system of military instruction, it shall be authorized to receive arms, ammunition and equipment from the United States government and pay out of the special school fund all the necessary expenses.

b. No system of military training or education shall be instituted or carried on in any school, unless the same be under the supervision of an instructor detailed for that purpose by the federal government, or a competent person certified by the state board of education.

Louisiana—An act requiring the teaching of military science and tactics in all the high schools was passed by the state assembly in July, 1916. The law reads:

"Section 1. Be it enacted by the General Assembly of the State of Louisiana, That, in addition to the branches in which instruction is now given in the public schools of the State of Louisiana, instruction shall also be given to the male pupils thereof whenever practicable in all grades higher than the eighth grade in the principles and practices of military science and tactics, especially with reference to the duties of the soldier and object of general military interest.

"Section 2. Be it further enacted, etc., That in all grades of the public schools of the state higher than the eighth, at least one hour a week shall be devoted to instruction, study and practice of military science and tactics."

Michigan—The Act requiring the establishment of an optional course of military training in all high schools in the state reads as follows:

"Section 1. Hereafter it shall be the duty of all boards of education or boards of trustees of school districts maintaining one or more high schools within their respective districts to establish a course of military training for such high school or high schools, such course to be optional with the students of such high schools: Provided, That nothing herein

contained shall apply to cities or villages having less than five thousand population. . . .

"Section 2. Failure or neglect upon the part of any board of education or board of trustees of any school district to maintain a course of military training, as provided in this act, shall subject said board to removal from office, after a hearing with proper notice, by the State Superintendent of Public Instruction."

New Hampshire—A law was passed last year which authorizes the public schools to include military drill and physical exercises in the courses of instruction. But what kind of instruction and how much time should be given were entirely left to the discretion of the local school boards.

Oklahoma—The state law authorizes the local school boards to provide for military training, athletic contests between schools, and physical examination of pupils. The boards are also authorized to accept assistance from the war department of the United States and the National Guard of the state for the purpose of military drill and training. The law further provides that a Board of Control, consisting of five members, shall be created for the carrying out of these provisions.

Oregon—The state law only recognizes the military training in the public schools as lawful, but makes no further provision.

In those states where no laws have been enacted on this subject, many cities have taken special action for its introduction. The following resolution adopted by the school board of Pueblo City (District No. 20), Colorado, may be considered as typical.

"Resolved that Central High School maintain a prescribed course of military training extending through two years of the high school course. Such training to be open to all boys as a voluntary and elective study, provided that when elected, the study shall be continued for at least one year and shall not be dropped within that time except by permission of the school management for adequate reasons.

"The high school will give credit for military training to the extent of one unit of the total requirements for graduation, one half unit per year, provided further, that such credit shall be given on condition that the course in military training consist of not fewer than two hours a week for not fewer than thirty weeks of a school year and the conduct of a camp for not less than two weeks each school year.

"The actual teaching of the military training shall be done by a regular teacher in the school. When possible, the teacher

shall be the teacher of physical education. This work shall be done, when such arrangements are feasible, under the direction and supervision of an officer of the regular army detailed for that purpose. The teacher shall make such preparation for this work as may be directed by the Board of Education."

The first and the only state which has enacted a law on military training in its broad sense is the State of New York. In 1916 the state legislature passed the so-called "Welsh-Slater" bills, making military and physical training compulsory in the secondary schools of the state for all boys above 16 and under 19 years of age. The essential points of the law are as follows:

The Military Commission—The law requires the establishment of a military commission composed of the Major General commanding the National Guard ex-officio, a member to be appointed by the Board of Regents of the university, and a member to be appointed by the governor. The duty charged to the Commission was that it shall "recommend from time to time to the Board of Regents the establishment in such schools (elementary and secondary), of habits, customs and methods best adapted to develop correct physical posture and bearing, mental and physical alertness, self-control, disciplined initiative, sense of duty and the spirit of co-operation under leadership."

Compulsory Physical Training—The law also requires the instruction in physical training and kindred subjects for all male and female pupils above the age of eight years in all elementary and secondary schools. The kind of physical training shall be determined by the Military Training Commission, and the time spent for it shall be not less than twenty minutes in each school day.

The private schools in the state are equally responsible for the giving of such courses as prescribed by the Commission. If any private school fails to establish and maintain such courses, attendance upon instruction in such school shall not be deemed substantially equivalent to instruction given to children of like ages in the public school or schools of the city or district in which the child resides.

Compulsory Military Training—With regard to military training the law requires that every able-bodied boy between the ages of 16 and 19 must receive military instruction in or outside of the schools. For the boys who are in public or private schools or colleges, the periods of military instruction are to aggregate not more than three hours in each week during the school or college year. For the boys who are outside of the schools, the periods devoted to military training are to aggregate not more than three hours in each week between

September first of each year and the fifteenth day of June next ensuing. Summer military training camps covering a period of not less than two or more than four weeks are to be established for the training of all the boys under the scope of the law at the expenses of the state. The law further provides that any boy who is lawfully employed in any occupation for a livelihood is exempted from this requirement unless he volunteers.

Critics of the bill advanced arguments against this last provision on the ground that it introduces a miserable class distinction in a public school system, for it associates military affairs with the people of leisure and means and perpetuates the idea that military life is not the business of a wage earner. Acting on the force of such arguments the legislature amended the law in the spring of 1917 in such a way as to include all boys of the said ages to be drafted for the service of the state. The amendment provides that the requirement for technical military training may be met in part, in the discretion of the Military Training Commission, "by such vocational training or vocational experience as will, in the opinion of the Commission, specifically prepare boys of the ages named for service useful to the state, in the maintenance of defense, in the promotion of public safety, in the conservation and development of the state's resources, or in the construction and maintenance of public improvement."

The significant point of this amendment is that it is in accord with the principle on which the national selective draft law is based. It provides for the defensive training of the soldier on the one hand and encourages the vocational training of the boys on the other. For the purpose of investigating and organizing the military equivalent services, a special Bureau of Vocational Training was established. It has been reported that the Commission is doing its best to carry out the provisions of the law both in letter and in spirit.

2. *Kinds of military instruction in different school systems:* So much for the school laws enacted by the state legislatures or special actions taken by the local school boards, now let us turn our attention to the actual practices of military training which have been in vogue for sometime in some places.

The kind of military training which narrows itself down to a few drills a week with or without arms has been very common wherever such training is given. As an illustration, the training program for the high school cadets of Salt Lake City may be worth noticing.

"Three drills are given per week. The drills are fifty minutes long, from 2:40 to 3:30 P. M.

"The school year, October first to May thirtieth, is divided into three periods.

"*First Period,* October first to November thirtieth.

"First year boys—School of the soldier, school of the squad; manual of arms, port and right shoulder, only.

"Ten minutes of each drill period is devoted to double timing and calisthenics with or without arms.

"Second year boys—School of the soldier, school of the squad, school of the company; manual of arms; competition in manual; some extended order.

"*Second Period*—December first to February twenty-eighth.

"First year boys—Manual of arms; school of the squad and company; care of and cleaning rifle; calisthenics with and without arms.

"Second year boys—Review of first period; pointing and aiming drills; extended order.

"During this period lectures are delivered to all organizations on the following subjects: First aid; outline of an army; military preparedness in the United States.

"*Third Period*—March first to May thirtieth.

"First month—Target practice; school of the company and battalion, close order; school of the company; extended order; compulsory combat exercises.

"Second and third months—Battalion parade and review; combat exercises, battalion; target practices; Governor's review."

Among the many schemes of providing a system of broad military training for the school youths the so-called "Wyoming Plan" has been widely heralded by newspapers and highly recommended by educators and military experts for its adoption elsewhere. The plan was originated in 1911 under the direction of Lieutenant E. Z. Steever at Cheyenne. The main feature of the plan is that it offers military training in the form of games. It takes the old lockstep, routine work out of military instruction and introduces into it the principle of competition, co-operation and play based on the natural tastes and instincts of adolescent youth. It utilizes competitive instinct without narrowing competition to the success or failure of any single individual. It develops the spirit of co-operation with ample opportunities for the development of initiative and individuality. It emphasizes the elements of play, yet the serious side of the training is never lost sight of. The whole system is so unique in its nature and so practical in its method that it may not be out of place here to describe some of its essential points in detail.

Training not Compulsory—Military training in Wyoming

high schools is not compulsory. Indeed, Lieutenant E. Z. Steever does not believe that compulsion is necessary, because the fascinating nature of the military games will not fail to secure a large enrollment. The only regulation for this elective course is that, once a boy has selected his course for the year, he must finish it within that period.

There is no other expense for the pupil, except the purchase of a uniform. The State of Wyoming has appropriated a sufficiently large sum to assist the pupils in purchasing the uniforms at almost half of the original price. Upon receiving such state aid, the recipient must sign a certificate agreeing that he will refrain from the use of tobacco in any form.

System of Training—The aim of Wyoming system of military training is not to make soldiers out of the school boys, but to prepare them in such a way as to enable them to become the worthy defenders of the nation when they reach their manhood. For this reason great emphasis has been laid upon physical development and skill in military activities, such as wall-scaling, field firing, etc.; and the ordinary routine drills have been reduced to the minimum. Beside the regular practice of the different competition units, whose organization I shall describe later, instruction in sanitation, cooking, woodcraft, simple field engineering, scouting, patrolling, etc., is also given.

Organization of Competition Units—According to the Wyoming plan, all cadets are organized into competition units. These are wall-scaling, infantry drill, troop leadership, scholarship, field-firing, and other camp and field activities. In contrast to the common practice of ordinary school foot-ball or baseball teams, of the selected few of the entire student body, the Wyoming plan of organizing these competition units provides an opportunity for the participation of all who elect the course; each unit being made up of an equal number of strong, medium, and weak boys. Take the instance of wall-scaling. The last two men over the wall must be the strongest for they have to help the others over and go over themselves unaided. But no unit is composed of cadets who are all of the "Last-man-over" type. Suppose there are ten competition wall-scaling squads in the school, the twenty strongest students are selected from the cadets at large, and only two of them are distributed to each squad. In the same way the next twenty strongest are selected and distributed, and so on down to the twenty of the weakest. When the squad wins, everybody in the squad receives the same kind of reward and shares the glory of victory with equal pride and honor.

In case of inter-school competition no school is allowed to group its strongest men in one squad and let this little group to be the heroes of the day. Each school is required to send a list of all its cadets classified according to their ability to the office of the State Superintendent, and the latter assigns the cadets to different squads in accordance with the principle just mentioned. In case several squads are formed in one school, then they can compete among themselves. The winning squad of this intra-school competition will have the honor of representing the school in the big inter-school tournament.

It is quite obvious that the distinctive feature of the plan does not altogether lie in the system of military games, but in the way the games are played. It allows the weak as well as the strong to play the game and they all have an equal chance to win. The whole system of competition does not consist of marching one squad against the other as in ordinary school athletics, but it encourages one squad to excel the other in team work and accomplishment. One cadet's gain is not another's loss; when one unit wins, some other one does not go down in defeat. Yet each game requires all the energy, ability, skill, team-play and dogged determination of all the participants in order to score a victory. It was reported that once a cadet leader of a scholarship unit visited the other members of the unit night after night for the purpose of coaching them, and that finally his unit won the glory of an unqualified success. Such spirit of loyalty to the group, co-operation among one's associates, and indomitable will to excel others in achievement, are an inspiring illustration of the value of such a system.

Another interesting character in the organization of competition units is that the cadet leaders are selected by the vote of the older cadets at the beginning of each year. The leaders are chosen on the basis of ability and genuine leadership rather than on that of popularity. In case of the election of a popular but inefficient leader, the mistake will be effectively punished by the failure of the unit. The trust of real leadership is thus developed coincidentally with the spirit of self-subordination to the will of the group. This kind of civil training is not possible in any other military organization.

The adoption of the Wyoming Plan in other places—The Wyoming Plan of military training has been tried in many other places, but one of the most important experiments was made in Chicago. Shortly after the declaration of war, Captain E. Z. Steever with a corps of four lieutenants and sixteen sergeants of the regular army undertook to inaugurate

the Wyoming system of military training in the high schools of certain cities within the central department of the army. Ten officers were assigned to the twenty-three high schools in Chicago. Various competition units were organized among the Chicago high school cadets, and the entire organization was ready in its working order at the beginning of this school year. As to the degree of success of such a trial no report is now available. But I have no doubt that such a simple, yet effective, system will not fail to win the confidence and support of the different school systems at this hour of national crisis.

II. Military Drill versus Broad Physical Education of Semi-Military Character

In the last section I have tried to make the distinction between military drill on the one hand and the broad military training on the other. Now we should like to ask a very fundamental question: Which one of the two possesses a greater value both from military and educational points of view? John Milton has defined "a complete and generous education as that which fits a man to perform justly, skillfully, and magnanimously all the offices, both private and public, of peace and war." What kind of military training will best accomplish this educational aim is the question we must carefully consider.

In answering this fundamental question the writer is prepared to say very definitely that he is opposed to the introduction of military training in the public schools if such training means only a few perfunctory drills a week. This view seems to have also been held by the majority of educators in this country who have made a careful study of the problem. The reasons for this view may be briefly stated as follows:

In the first place, mere military drill does not prepare a youth to become an efficient soldier. Through the ordinary military drill we may teach the boys to wear their uniforms properly, to keep their shoes shined, to march with 30 inch steps and with a rate of 120 steps per minute, to make proper movements when the orders of "Squad Right" and "Squad Left" are given, and to attain a fair degree of proficiency in the manual of arms. But none of these things are the essential part of a soldier's training. They are fragmentary and elementary in nature. They formed the most important part in the historic military drill practice, but have no functional significance in the modern war as now waged on the battlefields of Europe. Take, for example, the training in the manual of arms. How much practical worth has the

proper execution of the "Right Shoulder Arms" or "Left Shoulder Arms" to a soldier when the battle is on? How much value has the training in the different classes of firing for the defense of a trench system when machine guns, grenades and other horrible weapons of war have to be used to meet the on-rushing foe? Take another instance, the matter of marching. Of what use is the training in the close-order formation when reinforcements have to be brought up to the threatening point through the communication trenches or in the dark? We can, indeed, be sure that all these kinds of training have very little military value in trench warfare, or in open field battle, or in the hand-to-hand struggle. At the beginning of the European War, it was reported that most of the Belgians who answered the call of their country had no military training whatsoever before they were sent to the front. Yet who would say that they have not made the most heroic defense at the most tragic hour?

However, I do not want myself to be misunderstood on this point as saying that the simple military drill is absolutely useless and futile from the standpoint of military efficiency. I do not for a moment deny the necessity of such drill for the preliminary training of a soldier. It gives discipline. It provides the training for mental alertness in responding to the command. It makes system and order possible in a military organization. It is very necessary that the draftees in the military training camps should be given such kind of training in order "to whip them into shape." But from the practical point of view it is the least important and can also be learned very rapidly and readily. The proficiency in the manual of arms and marching movements can be acquired by any person with normal intelligence within a short time. To substantiate my contention I may relate a case of a very recent date. On the last anniversary of the battle of Lexington twenty Chicago high schools were represented by over 3,200 members of their military training classes in a simple military marching competition. Not a single company had drilled more than four periods with their rifles and the maximum time drilled by the oldest company, both with and without arms, was less than twenty hours. Yet it was reported, "Every lithe, young body was erect, every head straight to the front; every rifle carried just so; every foot in step; every boyish heart set on putting over a win for his company and his school." (Maj. E. Z. Steever and Maj. J. L. Frink—The Cadet Manual, p. xii.) Whatever other value military drill may have, its introduction into the public school curriculum can not be defended on military ground.

In the second place, a few military drills a week do not

give sufficient discipline so as to instil the habits of obedience in an adolescent youth. Captain L. C. Andrews has stated that the precise movements of the manual of arms and close-order formation are not for the purpose of learning how to get about on the battlefield—they will hardly be used at all—but they are for the object of training the mind and body of the soldier into habits of precise unhesitating obedience to the will of the leader. The drill-master commands "Right front into line," not because he wants his men in line especially, but for the purpose of exercising them in an exact performance of that particular movement, of habituating them to move exactly as he has ordered them. So the chief object of this simple drill is to make the obedience to command implicit and automatic. When this object is effectively accomplished, the difficulty in controlling the military units even under the stress of battle will be reduced to the minimum. This is a very brilliant explanation of the object of the drill. But military discipline is not and can not be maintained through drills alone. The habit of obedience can be made automatic only after a long process of training. The soldiers in the training camps live under military discipline in every waking hour of the day and seven days a week. Can the public schools exercise such military discipline over all the boys who are under their care? Obviously not. The schools have no control over the boys after the school hours. The most the schools can do is to require military discipline throughout the school day. But such a policy has not been adopted by any public schools in this country, as far as my knowledge goes. I would like to be convinced that the habits of obedience can be inculcated by a few drills per week and by a system of discipline which begins and ends with the drill hour.

Granting that this can be done. But whether or not the habit of obedience formed during drill hours can be transmuted into other fields is still a question open for investigation. Surely enough the boy learns to obey orders during drill hours, if the drill-master is a good disciplinarian. But he learns to obey orders of a specific kind and under a specific circumstance. Psychologists in recent years have generally denied the doctrine of formal discipline and agreed that the transference of training in one subject to the learning of another is very slight. How much can the specific habits of obedience to military commands be transferred into general obedience to law and authority is a question which can not be answered offhand. The New Jersey Commission on Military Training in High Schools has in its report made a very definite statement on this point. Thus it says: "The discipline of the schools aims, not at isolated acts of obedience

under special circumstances, but at the habit of obedience to elders and persons in authority. It is a psychological fallacy to suppose that obedience to military authority, obedience exacted under any peculiar circumstances, may automatically be translated into the general habit of obedience." Even though such a statement does not represent the whole truth, it certainly gives us some food for thought.

Furthermore, military drill as conducted in some public schools has failed to maintain strict military discipline even during drill hours. There are many reasons for this, but the chief reason is the incompetency of the military instructor. Superior knowledge is one of the essential qualities of real leadership; and so of the drill-master. He must know his business, if he wants to command the confidence and respect of his men. He himself must know every movement and its proper execution of the drill before he can give the orders correctly and exact unhesitating obedience to them. This is too simple a truth to need any proof or illustration. But let us ask: How many schools are fortunate enough to secure competent men to conduct the military drill? With few exceptions city schools having military training have placed the responsibility of such instruction in the hands of the physical directors. Very few of these directors have proved themselves equal to the new task. They themselves never had the proper military training. They themselves even do not know exactly how the movements they order are to be executed. How can we expect them to be good disciplinarians? One can not fool the adolescent boys. Once they find out that the instructor does not possess "the stuff in him," discipline is hopeless. General Baden-Powell has once said: "Unless you have specially good instructors, amateur military discipline is apt to spoil the boy for standing the real thing when he goes into the service." Shall we "drill the schoolboy and spoil the soldier?"

In the third place, mere military drill does not develop a boy in physical prowess, alertness and endurance. Practically all experts on physical training have come out very strongly against military drill as a means of physical development. Abundant testimonies on this point can be cited, but I shall quote a few of the statements made by those whose opinions based on practical experiences and pedagogical insight should merit our special consideration.

Dr. Ehler, of the University of Wisconsin, says:

"Military drill is an enthusiasm-killing, contempt-developing treadmill. Preparedness involves, primarily and fundamentally, the possession of vitality, endurance, integrity of struc-

ture, and function of every organ, alertness, bodily skill, self-control, hardihood, courage; in other words, the fullest development of the physical, mental, and emotional powers, the result of real physical education. Let us not confound drill with training, nor substitute military drill for physical education."

Dr. D. A. Sargent, of Harvard University is strongly opposed to military training and states his opposition clearly and forcibly in the following words:

"Our principal objection to military drill as a physical exercise is that it does not to any extent meet the physiological demands of the body. In other words, it is not of sufficient interest as a means of physical development to arouse any moral earnestness and enthusiasm on the part of the boys. The exercise of the manual is not performed with sufficient force and rapidity to insure the energetic contraction of the muscles employed. It is essentially a one-sided exercise, bringing into excessive action the elevators of the right scapula, the deltoid, biceps, flexors of the forearm, wrist, and fingers of the right side; while the other muscles, excepting the legs on parade days, do not get sufficient employment to keep in good condition. It does not increase the respiration and quicken the circulation to a sufficient extent to secure the constitutional benefits that should accrue from exercise.

"During the drill the clothing is buttoned close around the chest and natural respiration is hindered. The muscles are not alternately contracted and relaxed but are tetanized, or kept in a state of prolonged tension. This, as we have seen, not only impairs the tone of the muscles used, but also puts an additional strain upon the brain and nervous system at the time when both should be as much relieved as possible. Finally, the mere exercise of the manual of arms does not give sufficient breadth and scope of movement to secure the co-operation of the muscles, and as a training for the central nerve system it is of little or no value.

"In reference to the gracefulness that is thought to characterize the movements of cadets, we can only say it is not the outcome of drilling and marching. The soldier is trained to square corners, straight platoons, and angular movements; curves and embellishments are not encouraged in speech or in action. If you would account for the graceful poise of our national cadets, you should visit West Point in summer and see them from one to two hours a day in charge of the dancing master."

For those who think that the course of military drill has not been fairly represented by the experts of physical education, the opinion of Captain H. J. Koehler, instructor of

physical training, West Point Military Academy, is specially noteworthy. Thus he says:

"The use of the musket as a means of physical development for any one, be he man or boy, is more than worthless. It is, in my opinion, positively injurious. I deny absolutely that military drill contains one worthy feature which can not be duplicated in every well-regulated gymnasium in the country to-day. A thorough physical training develops all the necessary soldierly qualities to the greatest degrees and it does it without injury. If we have athletes, we shall never be without soldiers."

Experiments have made in a public school of London, England, for the purpose of determining the relative value of physical education and military drill, and the results are decidedly in favor of the former. Thus Dr. W. E. Darby, of London, says:

"It (physical training) should not be military, and for the following among other reasons: Because as a method of physical training military drill is both inadequate and injurious. Experiments, which were conducted in a public school, with a view to ascertain the relative value of gymnastics and of mere drill, showed that the average results yielded by the former were more than three times as great as those yielded by drill alone. Relatively, therefore, this method of physical culture is inferior. . . ."

Not only has military drill been condemned as a means of physical training, but it has also been shown as being actually harmful in its effect on boys who are too young to handle the real weapons and undergo the rigors of adequate instruction. Sir William Ailkin, professor of pathology in the army medical school of England has once said:

"Boys given military training at 18 makes soldiers who are less robust and efficient than men with whom this training was deferred a few years, remaining in civil life until after their bones, heart, lungs, liver, etc., were more matured and developed. Recruits at 18 show physical immaturity which results only too frequently in their ending in the hospital or being discharged as invalids. Recruits of 18 require two years' special training."

Finally, military drill in the public schools has been defended as a means of teaching patriotism. Now does it or does it not? To my mind, true patriotism can only follow the intelligent appreciation of the national and community life and of one's duty to the welfare of the group. To think that the simple military drill will cultivate in a boy a virile spirit, an ability and willingness to endure hardships, and a keener sense of duty to serve the community, the state, and the nation

is nothing short of a great pedagogical illusion. The love of the country and the esprit de corps can never be aroused by having imitation military drills with broomsticks for the rifles, and school basements or small gymnasium floors for the drill grounds. If military training has any contribution towards the development of one's sense of responsibility, duty, and self-sacrifice, it must be real, it must be broad in scope and practical in nature. The technical drill which is the smallest and the least valuable part of soldier's preparation can never accomplish the object.

In the above few pages I have endeavored to show that military drill alone has no great value both from the military and educational points of view. It can not be the means of character building and physical development. What we need to-day is not the "Shoulder arms" and "Forward march" sort of drill in the public schools, but a broad program of physical education of semi-military character for all the youths of the land, so as to develop in them the physical qualities of health, vigor and endurance, the mental qualities of acumen, control and alertness, and the moral qualities of courage, co-operation and self-sacrifice, in the widest and best sense. All these qualities are at the foundation of good citizenship as well as of practical soldiery. Schools can not and should not be expected to perform the task of training soldiers in the strict military sense. But schools can and should train the youths in a broad and general way so as to make them physically, morally and mentally fit for fighting the battles of the nation when their service is needed. This task can be accomplished far more effectively by a well-devised system of vigorous physical training under discipline than by military drill.

Before we discuss the content of such broad program of physical education in the light of its practical value as a soldier's preparation and of its adaptability as a part of the public school curriculum, we may first direct our attention to the means and methods by which the European nations have been training their school youths under military age.

"Military instruction, of the exact nature and to the same extent as that given to soldiers, is not found in the schools of any country of Europe except the special military schools." In those countries where the system of universal military service exists the public schools often include military gymnastics in the course of physical education. But in no case have they ever attempted to substitute military drill for the

well-established systems of physical training. We may take Germany, France, and Switzerland for our illustration.[1]

Germany—In Germany military drill was introduced into the city schools of Prussia as early as the beginning of the nineteenth century. But shortly after the Napoleonic wars, a thorough system of military preparedness for all males was adopted, and the matter of military training in schools was made no longer necessary. It was not until the outbreak of the European war that an emergency measure was undertaken by the schools to prepare the youths approaching the military age for their early service in the army. In 1914 a joint decree was issued by the Prussian ministries of war, ecclesiastical and educational affairs, and the interior, requiring that all boys over 16 years of age, not yet in active service, should receive preparatory military training for the duration of the war. In response to this decree many schools have introduced military instruction in connection with gymnastics as a part of the prescribed program. The time allotted to this work averages two hours a week.

Before the war, the German school youths could obtain military instruction only from voluntary organizations which have been in existence outside of the school. Among these organizations the federation of Jugendwehren (juvenile military organizations) is the best known. The chief purpose of this organization is to train the boys in long marches, field exercises, and maneuvers, as well as exercises in the activities of auxiliary corps of the army. It does not limit its membership to the school boys, but the great majority of its members are the pupils of various schools.

Next to Jugendwehren the organization of Pfadfinder (pathfinder) has had a very rapid growth in Germany. In 1912 the federation of pathfinders had a membership of 24,000, with 600 field masters. The training program of this organization is essentially the same as that of the Boy Scout.

Jungdeutschland (Young Germany) is another organization which tends to prepare boys of school age for military duty by means of exercises of a direct military character. It was organized by General Field Marshal von der Goltz in 1911, and its activities comprise drills, gymnastics, bicycling, marching, field exercises, patrolling, small feats of military engineering, etc.

France—Since the disastrous defeat of 1870 France has paid special attention to the preparation of her youth for

[1] For detailed information, see Military Training of Youths of School Age in Foreign Countries. U. S. Bureau of Education, Bulletin No. 25, 1917.

military service. As early as 1880 physical training including military drill was made obligatory in all public schools.

In the primary schools, the prescribed programs of military instruction are as follows:

"Middle division.—Exercises in marching, alignments, formation of squads, etc. Preparation for military service.

"Higher division.—School of the soldier without arms. Principles of the several steps. Alignments, marches, countermarches, and halts. Changing the direction."

In higher elementary schools, the "preparatory military exercises" consisting of advanced drills and maneuvers are added to regular gymnastics.

However, this system of military training as a component part of the prescribed course of physical education has not been approved by the leading educators in France, although it has been recognized as preparatory training for military service. Thus one authority says: "Military training involves serious inconveniences with regard to hygiene. It implies rigid discipline, which is condemned by true pedagogy. Outside of that it produces results that are only partial, limited and special."

Switzerland—Among all the systems of universal military service the so-called "Swiss System" has been highly recommended for its adoption in this country. The essential feature of the system is the provision of a short period of actual military training and the requirement of all public schools to give "Preparatory Gymnastics." In an Act for the military organization of the Swiss Republic, it was required that the cantons should provide for a course in calisthenics for young men during their attendance in the public schools, and this calisthenic exercise should be administered by instructors trained for the work either in the normal schools or in the schools for physical training. The law also provides that the Confederation would encourage all associations and all efforts toward the bodily development of its young men from the time of their leaving school until incorporated in the army.

In accordance with the provision of this Act, the preliminary military training is conducted in two forms: (1) compulsory preparatory gymnastics for all the boys during the entire legal school age; and (2) voluntary cadet corps; such corps for drill with arms, corps for drill without arms, and corps for target practices, are greatly encouraged by the government in various ways. Military training as we find in some school systems in this country does not exist in the public schools of the Swiss Republic.

Enough examples have been cited from European countries.

We may now take a few examples from some of the progressive states in this country in this connection.

New Jersey—Acting on the recommendation of the Commission on Military Training in High Schools the State Legislature passed a very comprehensive law in March, 1917, for the establishment of a state system of physical education in all the public schools. The general provisions of the law are:

1. A course in physical training shall be established and made a part of the courses of instruction in the public schools. No pupil can be excused from taking such training except those in the Kindergarten.

2. The time devoted to such training shall aggregate at least two and one-half hours in each school week.

3. Such course shall be adopted to the ages and capabilities of the pupils in the several grades and departments and shall include the following points:

a. Exercises, calisthenics, formation drills, instruction in personal and community health and safety and in correcting and preventing bodily deficiency.

b. Instruction in the privileges and responsibilities of citizenship, as they relate to community and national welfare, with special reference to developing bodily strength and vigor, and producing the highest type of patriotic citizenship.

c. For female pupils, instruction in domestic hygiene, first aid and nursing shall be added.

4. At the discretion of the state board of education, military training may also be included in such course. In case the said board decides not to include it, any local school board may submit the whole question to referendum vote.

California—The state legislature enacted a law concerning the organization and supervision of courses in physical education in the elementary, secondary and normal schools of the state in May, 1917. The law includes:

1. The board of education of each county, and city shall prescribe suitable courses of physical education for all pupils in the day elementary school and the board of high school district for all those in the high school.

2. The aims and purposes of such courses are: (a) "to develop organic vigor, provide neuro-muscular training, promote bodily and mental poise, correct postural defects, secure the more advanced forms of co-ordination, strength and endurance, and to promote such desirable moral and social qualities as appreciation of the value of co-operation, self-subordination

and obedience to authority, and higher ideals, courage and wholesome interest in truly recreational activities; (b) to promote a hygienic school and home life, secure scientific supervision of the sanitation of school buildings, playgrounds and athletic fields, and the equipment thereof."

3. A State Supervisor of Physical Education shall be appointed by the State Board of Education. He shall exercise general supervision over the courses of physical education and all the athletic activities in the public schools of the state.

Maryland—A law enacted very recently requires that all public schools must establish and maintain a course of physical education and training for pupils of both sexes during the following minimum periods: (a) in the elementary schools at least fifteen minutes in each school day and also at least one hour of directed play outside of regular classroom work in each school week; and (b) in public high schools at least two hours of directed play or athletics for all pupils outside of class work in addition to the one hour gymnastic exercises in each school week. For the purpose of carrying out this provision a State Supervisor was also provided.

Beside these three states, the General Assemblies of Rhode Island and Delaware have also enacted laws with regard to this important problem. But they are much less comprehensive and specific than those just mentioned.

In addition to these state legislations, a movement is now on foot to secure federal legislation for the establishment of a universal system of physical education throughout the country. In the Conference on Physical Education called by Commissioner Claxton at Atlantic City in February, 1918, the following resolutions were adopted.

"1. That a comprehensive, thoroughgoing program of health education and physical education is absolutely needed for all boys and girls of elementary and secondary school age, both rural and urban, in every state in the Union.

"2. That legislation, similar in purpose and scope to the provisions and requirements in the laws recently enacted in California, New York State, and New Jersey, is desirable in every state, to provide authorization and support for state wide programs in the health and physical education field.

"3. That the United States Bureau of Education should be empowered by law, and provided with sufficient appropriations, to exert adequate influence and supervision in relation to a nation-wide program of instruction in health and physical education.

"4. That it seems most desirable that Congress should give

recognition to this vital and neglected phase of education, with a bill and appropriation similar in purpose and scope to the Smith-Hughes law, to give sanction, leadership and support to a national program of health and physical education; and to encourage, standardize and, in part, finance the practical program of constructive work that should be undertaken in every state.

"5. That federal recognition, supervision and support are urgently needed, as the effective means, under the Constitution, to secure that universal training of boys and girls in health and physical fitness which are equally essential to efficiency of all citizens both in peace and in war."

From all the evidence at hand we may safely say that the general tendency in this country is towards the introduction of a broad system of physical education into the prescribed school curriculum instead of military training in its narrow sense. This is the only sensible thing for the schools to do, because they lack the time, the means and the professional ability to provide a genuine and real system of military training comparable to that given to the soldiers. Now we may ask: What kind of physical education should we adopt in order to achieve the purpose of preparedness?

Copious literature has been written on this problem in the past two or three years, and many valuable suggestions have been made. In some places the measures of health examination, provision of healthful environment in home and school, and instruction in health problems have been included in the program of physical education. Broad as this conception of physical education is, I wish to suggest the incorporation of the program and methods of the Boy Scout in any scheme of physical training which may find its place in any school system. This is not the place to discuss the Boy Scout program. But from the military and educational points of view, we may see what contributions scouting education does have to offer.

In the first place, scouting offers the very best training in the military sense to the adolescent youths. Experience teaches us that modern military training is an exceedingly complex affair. A good soldier must have not only strong physique, great endurance, and knowledge of military tactics, but also practical ability in doing many things upon which the efficiency and success of an army depends. He must know how to build roads, put up his tent, and take care of various kinds of motor machines. He must know the principles of personal hygiene, first aid, and camp sanitation. He must know how to take care of himself, such as what to do about

a blister and how to cook a simple meal. All these and many other things are the fundamentals of a soldier's training; and these are the very things which the scout program includes. As an illustration of this point, the introductory statement in the Boy Scouts' Handbook (1917) is very noteworthy.

"A Scout! He enjoys a hike through the woods more than he does a walk over the city's streets. He can tell North or South from the moss that grows on trees and East from West by the shadows that trunks and branches cast. When matches are forgotten he laughs and proceeds to kindle a fire by rubbing two sticks together or by striking steel on flint. The fire once started, what a breakfast, dinner, or supper he can prepare out there in the open! Does he enjoy the meal? Just watch him and compare his appetite with that of a boy who lounges at a lunch counter in a crowded city.

"A Scout does not run away or call for help when an accident occurs. He devotes all his strength and energy to assisting those who are in need. If a person has been cut he uses his first aid knowledge in stopping the flow of blood, gently and carefully binds up the wound, then, if necessary, he seeks other assistance. If a person has been burned his knowledge tells him how to alleviate the suffering. If any one should be dragged from the water unconscious, a Scout at once sets to work to restore respiration and circulation. He knows that not a minute can be lost.

"A Scout can talk to a brother Scout without making a sound by signaling with flags; or by tapping on a log he can imitate the click of a telegraph key, and in either manner he can spell out words and sentences.

"A Scout can tie a knot that will hold, he can climb a tree, the ascent of which seems impossible to others, he can swim a river, he can patch a tent, he can mend a tear in his trousers, he can tell you what weeds are poisonous and what are not, he can sight nut-bearing trees from a distance; if living near ocean or lake he can reef a sail and take his trick at the wheel, and if near any body of water at all he can pull an oar or use paddles and sculls; in the woods he knows the names of birds and animals; in the water he tells you the different varieties of fish."

In the second place, scouting education offers the very best means of character building. Dr. James E. Russell, in commenting on scouting education, once said: "As a teacher, I take my hat off to Sir Robert Baden-Powell, the genius who in a decade has done more to vitalize the methods of character training than all the schoolmen in this country have done since the Pilgrims landed on the New England coast." In the public schools we teach the precepts and neglect the

practice. We preach the virtues but lay no emphasis upon participation. We know full well that mere instruction is ineffective in character building, yet our indolence has always made us follow the line of least resistance. But scouting education just reverses our common practice. It teaches the boy to translate the Golden Rule into concrete deeds and thus enables him to incorporate it into the fabric of his moral life. On becoming a tenderfoot every boy must take the scout oath: "On my honor, I will do my best (1) to do my duty to God and my country and to obey the scout law; (2) to help other people at all times; (3) to keep myself physically strong, mentally awake, and morally straight." This simple oath has a very significant meaning to the boy. It means the solemnity of the occasion on becoming a scout. It means that he must do something to fulfill his duty. This oath is further reinforced by the twelve commandments stated in positive terms. The scout is trustworthy, loyal, helpful, friendly, courteous, kind, obedient, cheerful, thrifty, brave, clean and reverent. Each one of these laws sounds a bit grandiloquent, but it is illustrated by the simplest and most concrete duties of a boy's life. The scout's duty is to do a good turn daily, but he does it on his own initiative and out of his own free will. In contrast to the military discipline, which is always mechanical and autocratic, the scouting program seems to be so nicely adjusted and so evenly balanced as to inculcate the spirit of self-subordination and the habits of obedience on the one hand and to provide ample opportunities for the development of originality and leadership on the other.

In the third place, the means and methods of scouting education appeal to the boy's interest and are adapted to the boy's nature. The boy in his early teens is essentially a savage. He has an abundance of energy and a great variety of interest. He is a great explorer. He loves adventure. He seeks opportunities to give expressions to his inner cravings and instinctive desires. School is exceedingly irksome to him, because pedagogues are often short-sighted and pinheaded and do not know how to supply his psychic needs. From this psychological point of view we find the secret of success of the Boy Scout movement. It gives the boy a chance to make use of all his powers, physical, mental, and moral. It directs his interests to the right channel and at the right ends. It makes him self-reliant yet obedient, courageous yet restrained, virile yet courteous, aggressive yet always respectful for the right of others.

Most of the scouting activities are in a form of play, and most of the play is to be had out of doors. There the scout may play the part of an Indian, or a frontiersman, or a

cowboy, to work off his wild spirit in the most wholesome manner. There he learns about the stars, the moon, and the sun, about the frost, snow, rain, clouds and winds, about the trees, flowers, birds, and insects. There he explores the country and finds out every path and by-path. There he learns to use properly his eyes, ears, nose, and senses of taste and touch. There he is taught to deal with various accidents —ice-breaking, electric shocks, drowning, run-away carriages, and so on. There he must prove that he can make a fire with or without matches, cook a hunter's stew, skin and cook a rabbit, or pluck and cook a bird. There he acquires the knowledge of scores of other activities which are susceptible of direct and immediate application to everyday life. The best thing about this whole scheme of training is that "every task in scouting is a man's job cut down to a boy's size." It appeals to the boy's interest because he wants to "behave like a kid, but be treated like a man." If the interest of the children should be the first consideration of modern education, the means and methods of scouting seem to be well-nigh pedagogically perfect in every respect.

From the standpoint of preliminary military training and sound pedagogy I have praised the scouting program and method and urged the incorporation of scouting activities into the school curriculum. But with regard to the entire system of broad physical training the following general outline may be offered.

1. The school day must be greatly lengthened. Seven or eight hours a day and six days a week should be a possibility.

2. For the children between 6 and 12 years of age, at least half of the school day should be given to physical exercise and organized play.

3. For the children between 12 and 16 years of age the program and method of the Boy Scout should be adopted. The physical director should be the scout master, and every boy should be made a "good scout." At least from 15 to 18 hours a week should be given to the activities of scout-craft. Two whole afternoons a week (perhaps to include evenings too), say Wednesdays and Saturdays, should be made available for long hikes, trips to swimming places, etc. Week-end camping may also be possible.

4. For the boys between 16 and 18 years of age, the Wyoming system of military training may also be included in the program in addition to those activities just mentioned. Summer camps covering a period from four to six weeks should be established at the expense of the State, and their attendance should be made obligatory to all boys. In these

camps intensive military training should be given and strict military discipline should be maintained. In this connection the program carried out by the Military Training Commission of New York State last summer should be worthy of adoption.

In conclusion, I may say that (a) the kind of military drill which we find in some school systems in this country has no place in the public school curriculum. It is a sheer waste of time, and has no value, either military or educational. (b) A genuine system of military instruction, of the exact nature and to the same extent as that given to the soldiers, can not be provided by the school for lack of time, means, and professional ability. It has not been found in the public schools of any country in Europe. (c) A broad program of physical education of semi-military character should be adopted by all the schools in the country. It may necessitate the reorganization of the systems of school administration and school instruction to some extent. But we should spare no effort in putting it into practice, if it is workable. "Better citizenship" is the educational slogan of to-day; and a good citizen can never fail to be a good soldier.

MORAL TRAINING OF SCHOOL CHILDREN IN WAR TIME

By Ping Ling

John Ruskin said in his Crown of Wild Olive:

"When I tell you that war is the foundation of all the arts, I mean also that it is the foundation of all the high virtues and faculties of men. It is very strange to me to discover this, and very dreadful—but I saw it to be quite an undeniable fact. The common notion that peace and the virtues of civil life flourished together, I found to be wholly untenable. Peace and vices of civil life, only, flourish together. . . .

"I found, in brief, that all great nations learned their truth of word and strength of thought in war, that they were nourished in war and wasted by peace, taught by war and deceived by peace, trained by war and betrayed by peace—in a word, that they were born in war and expired in peace."

In these times of unprecedented world struggle when the traditions of centuries are crumbling and all the ideals of civilization are being tested in the infernal fire of war, these words of a philosopher and a great lover of art are most challenging. They are challenging, because they compel us to turn our thought from the present horrors of war to the possible future social order which may rise from the indescribable chaos of to-day. Looking from the dark side of the war, the world is in a period of great conflagration. Every human effort is being directed to the scientific inventions of frightfulness and destruction. Every advance in science and engineering makes war more hideous and every advance in organization and efficiency makes it more terrible. The shrieking of the drowning women and children on the high seas and the shelling of quiet homes seventy or eighty miles away are only a few of the examples of the terrors of modern warfare. For the time being at least it seems that the whole world is going to come to an end. But looking from the bright side of the war we find that war has served as a great agency for the re-evaluation of life, for the advancement of civil virtues and for the enhancement of high moral ideals, despite all its destructive effects. Never before have we seen so many evidences of love and sympathy, of devotion to duty and consecration for service. Never before have

we heard so much of the deeds of heroism and self-denial, of bravery and discipline. Never before have we found so many examples of loyalty, co-operation, and the willingness of paying the last measure of devotion for a great cause. We have every reason to hope that this war will prove to be a great atonement for the world, that the heroic blood shall not have been shed in vain, and that a new social order shall be established which will for ever hold the brute in man in leash. It is upon this inspiration that I propose to discuss in this paper the ethical values of war from an educational point of view, and particularly those object lessons which are exerting a profound influence on the character and inner life of the children upon whose education and training the future of the world depends.

The teachers of to-day are largely responsible for the world of to-morrow. They are training a generation not only for the wise maintenance of the coming peace but also for the just and faithful applications of the moral lessons we have learned from this war. Nations as well as individuals will soon forget the truth and the ethics which have been brought so vividly and lucidly to light by the immediate conflagration, and let the lower passions of vain glory, petty jealousies, and selfishness again loom large in our national and individual life. But, lest we forget, we must never go back to the old order of things; we must never let the war lessons so dearly and painfully learned be relegated to the place of oblivion; and, the most important of all, we must teach children these lessons so that the truths and the ethical virtues brought out by war may be incorporated in their moral fibre and may thus become a moulding force for the future. This is a great task, a task which requires vision and pedagogical insight to perform. Woe be unto the pedagogues if they fail to comprehend their duty and responsibility to discharge it with faith, fidelity, sagacity and professional ability!

In discussing the problem of moral training of school children in war time the writer is fully aware of its immensity and complexity. In times of peace the ethical training in the public schools always proved to be a difficult thing, because there was a lack of paramount motives to hold the interest of the children. But in times of war the condition is different. We can construct our entire method of moral training around the main theme of patriotism. In patriotism the children will find motives in doing things and can learn many fundamental virtues through their actual participation in the war activities of the school. For this reason I shall present this subject in the following two sections: namely,

(1) the teaching of patriotism and (2) the training of patriotism.

I. Teaching of Patriotism

The first task the teachers must perform is the teaching of patriotism. It is not a new task imposed by the war, but the war has made it more important and necessary. To fail in stimulating the patriotic feelings in children would mean a failure in one of the main functions of the school. But how to teach patriotism in connection with the war is the question which we have constantly asked and to which we yet have no answer. To my mind, the fundamental solution of this problem presupposes a clear conception of what true patriotism is. To conceive it in its highest and best sense, the teaching of it will be beneficial both to the individual and to the nation. To conceive it in a wrong perspective, the teaching of it, no matter how patriotic the teacher may feel, would be poisoning the minds of the children and doing a nation more harm than good.

Now what is patriotism? To say that patriotism is love of country is begging the question, for the phrase "love of country" needs further explanation. Is the hatred for the enemy to be identified as true patriotism? Is the exaltation of the nation's greatness to be interpreted as real love of country? With all emphasis we must say "no." To conceive patriotism in such terms would be nothing short of a horrible perversion. In an autocracy the conception of patriotism can not be anything other than the exaggerated national egoism and the contempt of other peoples, because the autocratic rulers must deliberately educate their people into such a frame of mind in order to further their imperialistic design. But in a democracy, we must conceive patriotism as an unqualified devotion to the ideals and institutions of the country which guarantees liberty and justice to all. It is upon this higher and nobler conception that we must formulate our principle of instruction.

Avoid the teaching of hatred—Hatred for the enemy has no place in the teaching of the war. We have heard so much about the teachings in the public schools of Germany concerning her enemies, but we should not follow her example. Indeed, we should constantly guard ourselves against the temptation of introducing into the public schools any teachings which are not in harmony with the democratic ideals for the defence of which we are making a supreme sacrifice. America entered the war with no selfish purposes, so we must carry on the war without passion. The righteous indignation against the Germans which we must all feel at present must

never be degraded into simple racial hatred. We must not let our feelings blind us to our pedagogical duty which is to educate, to train, and to prepare the children of to-day for the world-citizenship of to-morrow.

As regards the kind of patriotism taught in the German schools since the war began we find that hatred for the enemy has been the dominant feature of all class-room instruction. In Germany, Nietzsche's phrase that "war and courage have accomplished greater things than love for one's fellowmen" has been handed down to the coming generation with fresh and immediate significance. "War glorified the one ultimate and vital aim of life" and "God punishes the enemy" are the few topics that millions of German school children are daily listening to. The German instructor is teaching his classes that the Germans are fighting like heroes against Händler, as warriors against mercenaries, as people in arms against the slaves of mammon (England) and of the mean desire for revenge (France). He is also putting into the minds of the pupils that the peoples of all other nations—not allied with Germany—are cowards, liars, slanderers, and degenerates and that Germany alone stands for truth and righteousness. National unity has been the chief emphasis of the German school. It appears to be the distinct aim of the German authorities to create a spirit of blind uncompromising chauvinism in the hearts of the children so as to make them to think as one and to hate as one the democratic world.

Not only the schools, but public lecturers and pastors are also interpreting the meaning of the great war according to this point of view. In a book published by a German pastor, which was supposed to be a collection of the teachings of Germany's poets, prophets, teachers and preachers, chiefly the latter, the following paraphrase of the three petitions of the Lord's Prayer may be very interesting:

"Though the warrior's bread be scanty, do Thou work daily death and ten fold woe upon the enemy. Forgive in merciful long-suffering each bullet and each blow which misses its mark. Lead us not into the temptation of letting our wrath be too tame in carrying out Thy divine judgment. Deliver us and our Ally from the infernal enemy and his servants on earth. Thine is the Kingdom, the German land. May we by the aid of Thy steel-clad hand achieve the power and the glory."[1]

Teachings such as these, impressed upon the mind of the youth, will not fail to create a spirit of hatred toward Germany's enemies of to-day which will not only endure but will

[1] Bang, J. P. Hurrah and Hallelujah, New York, 1917.

also hinder all plans of permanent peace. From every point of view we must condemn such practices as short-sighted, ill-advised, and unworthy of any pedagogical consideration.

From the pedagogical point of view, teachings like these will only tend to perpetuate the ill-feelings among the warring nations for many generations to come. This great world war must be considered as temporary and the reconciliation of the peoples must be inevitable. The great task facing the educators to-day is not to preach hatred in the midst of the present world-war, but to guide the youth in his moral development and to prepare him for the great future responsibility of human civilization. We can not very effectively teach children to love our enemy, because the hatred for the enemy and the pride for our victory are instinctive with children. They come very naturally. They can not be entirely suppressed by mere instruction. But we can at least guide children to see the significance of mutual dependence among the nations to enhance world civilization and to enrich our social inheritance; we can at least direct their patriotic feelings to have proper and adequate expression in duty and service; and we can at least teach them to treat our enemies according to the principle of justice and fair play with which we wish ourselves to be treated. Hate is one of our inherited instincts. To excite hatred for the enemy among children, who can not reason logically and who can not see things in their right proportion, is one of the easiest things in the world. An idiot can do so. Why should we try to develop this baser instinct in children and thus increase the chances for the resumption of the horrors of war when the present war is over?

Furthermore, to teach hatred would be to increase the demoralizing effects of war upon the inner life of children Evidences are not lacking that numerous psychoses have developed among the children who, on account of their residence near the fighting front, have been receiving the frightful impressions of death and destruction. Their emotional life has been profoundly affected by the great shell-shock of the war. They are developing their cruel instincts and harmful habits which are definitely detrimental to the normal growth of their moral character. In view of this fact the true war-pedagogy is to find out the ways and means to counteract the evil effects of war and to obviate the dangers which may rise from the daily events of the struggle. On discussing the new educational duties of our time, Prof. F. W. Foerster has made the following statement: "A girl in her teens comes from a street-corner where the German naval victory off Chile

is posted and says jubilantly to her friends, 'Have you read? Magnificent! Fifteen hundred Englishmen drowned off Chile!' I do not consider such things harmless. For the stay-at-homes war can become a school of heartlessness and thoughtlessness if a very earnest counter-effect is not given at the right time. As a teacher, I would, on such an occasion—or even beforehand as a precautionary measure—say with great emphasis, 'Listen, whoever is not yet so fortunate in these war times as to be permitted to bind up wounds and nurse the wounded, shall at least *think* of the wounds which war inflicts and of the broken hearts and happiness of the thousands who thereby lose what is dearest to them—therefore, even in our joy over victory, there should always sound a minor note. Do you know what "Minor" means and how it can be expressed? What a loss for us if the others should lose their ships, but you should lose your hearts!'"[2] Such an admirable statement from a far-sighted German educator should serve as a grave note of warning to the teachers in this country who are encouraging their pupils to maintain a malicious, scornful and brutal attitude towards the enemy. To be sure, the grim realities of war have not come to the daily experiences of the average American children. But the time is coming, if the war lasts, when the American heroes will lay down their lives on the fields of honor by hundreds or thousands a day, then their dear little ones at home will not fail to have some emotional experiences which are appalling to their growing childhood. Is it pedagogically or psychologically sound that we should teach them to indulge in hatred and malice, which are not beneficial to the nation and decidedly harmful to themselves?

Avoid the Teaching of National Egoism—The undue exaggeration of the nation's greatness should be carefully avoided in the teaching of patriotism. The fundamental reason for which Germany started this world war is just because of her belief that she is the only nation in the world that is fit for existence. For many decades the German government has been using the public schools as the chief instrument for educating the people to believe in the doctrine of "Deutschland ueber Alles." In no country has the government more direct control over education than in Germany. In no other country has education been made so subservient to political aim which is to put the world under German domination. Everywhere in Germany the children have been taught to think that the Germans are the "Chosen People of God" to rule the rest

[2] Prof. F. W. Foerster. New Educational Duties of Our Time; translated by Helen M. Downey. Pedagogical Seminary, March, 1918, p. 80.

of the world. Had the Germans been trained to respect the right of others, this great catastrophe would have been impossible.

In order to show the extent to which the minds of the German children have been poisoned the following quotation from a letter written by a school girl, a daughter of the State Councilor of Architecture, to a friend in Switzerland may be worth noticing:[3]

"It is evident that you, a Swiss girl, with your French sympathies, can not understand how my heart, the heart of a young German girl, passionately desired this war. Speaking of it some years ago, my father said to us: 'Children, Germany is getting too small for us; we shall have to go to France again in order to find more room.' Is it our fault if France will not understand that more money and land is necessary for us?

"And you reproach us that our soldiers have been very cruel to the Belgian rabble, and you speak also of the destruction of Rheims, and of the burning of villages and towns. Well, that is war. As in every other undertaking, we are past masters of war.

"You have a great deal to learn before you can come up to our standards and I assure you that what has been done so far is a mere bagatelle compared with what will follow.

"As a matter of fact there is but one race worthy of ruling the world and which has already attained the highest degree of civilization. That race is ours; the Prussians are undoubtedly the lords par excellence among the Germans.

"All other nations and among them, unfortunately the Swiss, are degenerate and of inferior worth. That is why I have always been so proud of being a true Prussian.

"Yesterday, again, our pastor explained to us convincingly that our first parents, Adam and Eve, were also Prussians. This is quite easy to understand, because the Bible tells us that the German God created all after his own image. If then, all men are descended from Adam and his wife, it follows that only Prussians, or at least Germans, ought to exist in the world, and that all those who push on and prosper ought to belong to us. You must admit that that is logic and that is why our motto is, 'God with us. Germany above Everything.'

"You know now why we wished this war. Is it not shameful that other nations, who have no right to existence on the earth, wish to diminish our heritage! We are the divine fruit, and the others are only weeds. That is why our great Emperor

[3] The Red Cross Magazine, April, 1918, p. 72.

has decided to put an end to all these injustices and to extirpate the weeds. Do you understand now?"

From the above few paragraphs of the naïve expression of a school girl, we perhaps know more about the frame of mind of the average German people, yea, even their political philosophy, than from reading volumes of literature on the same subject. As a rule the German people have been so much obsessed by their military success that they can not distinguish between right and wrong. It is not an exaggeration to say that Germany has become a land of "dead conscience," and for this her public schools are largely responsible. The teachers of the American schools must not be blinded by their patriotic feeling of the moment and fall into such error.

To teach children that their country is the best in the world in every thing is not teaching the truth. No nation is all good nor all bad. Every country has its shortcomings as well as its achievements. The great world civilization is just like a beautiful mosaic picture, each nation has made its contribution. Every nation has its own ideals, traditions, customs, morals and virtues, which may be utterly different from those of others; yet it is upon these very differences that the advance and the enrichment of the world civilization depends. Teachers must lead children to recognize these differences between nations and help them to realize the deep underlying unity that binds all nations together. The great fundamental principle of a democracy is to allow the individuals to differ; so the great democratic world must allow the individual nations to differ. America is devoting everything, man, money and resources, to making the world safe for democracy; so the school teachers must assume the responsibility of developing a sort of corporate conscience in the younger generation in order to maintain the great world democracy which is bound to come. Their accomplishment may not be so spectacular as that of the heroes in the field, but it is in no sense less important.

Furthermore, true patriotism does not consist of a romantic view of country. It must be sane and modest. It is of the same nature as the love which we have for our parents, as one writer puts it. We know that our parents are not perfect human beings; so one must recognize the fact that his nation is not a perfect nation in everything. Nevertheless, one can love his country just the same, even though it is not perfect. As we must and we will defend our parents from violence, so one must defend his country from any foreign encroachment. Why should one insist upon the idea that his country must be the finest in the world in order to fight for its right and honor?

The sentiment which expresses itself in the phrase, "My country, right or wrong," is not the kind of patriotism we should teach in the public school. It has the same meaning as "Deutschland ueber Alles." It is nothing but a projection of the selfish ego on a larger horizon. To carry the analogy a few steps further, we can say, "My country, right or wrong; my state, right or wrong; my county, right or wrong; my city, right or wrong; my family, right or wrong; and finally, myself, right or wrong." It literally means that selflove recognizes no law, and patriotism knows no principle of justice nor international obligations whatsoever. How absurd!

However, this popular phrase had a very innocent origin from an American naval commander, Commodore Decatur, just about a hundred years ago. In a banquet given in his honor, after his historic expedition to the Mediterranean, he was called upon for a toast. He responded by saying: "Our country! In her intercourse with foreign nations, may she always be in the right; but our country, right or wrong." Considering the position of Decatur, this sentiment was a very noble one. Decatur was a naval officer and his chief duty was to obey. His statement meant substantially this: "I hope my country in her foreign quarrels will always be in the right; but be she right or be she wrong, I as an officer of her navy have no choice but to execute her commands."[4] This is a good sentiment for a soldier, but not for a citizen. The former has to do what his country orders him to do, while the latter must see to it that his country is in the right in her course of action. The duty of the former is to obey, while that of the latter is to decide. It is not a virtue for a citizen to think that his country is right, when it happens to be wrong. But right or wrong, he can still love his country for what it is and what he owes to it. Teachers who have the sacred duty to prepare children for good citizenship must conceive patriotism in the sane and modest way, otherwise the teaching of it will be pernicious and destructive to the democratic ideals America is defending. George Mallory in a pamphlet addressed to the British boys and girls with regard to their duty in war time has urged them to think for England, and to think what is *right* for England. Thus he says: "When she (England) is proud she must be pitiful; when she is angry she must use moderation; when she loves she must be kind; when she hates she must still see what is just; if her place is peculiarly fortunate her conduct must be peculiarly blameless; if she is strong she must admit a fault; if she is free she must be generous. And

[4] Post, Louis F. Ethics of Democracy, p. 321.

truly to love England means precisely this: that we wish the best for her as we wish it for friends whom we love." May all teachers in America take this sane attitude in performing their daily task!

Teaching the National Ideals—The great democratic ideals, the ideals upon which the American Republic was founded, should never be lost sight of in many schemes of teaching patriotism. Since the declaration of war practically every city school system heard from has instituted some means in arousing the patriotic feelings in children, such as flag cult, pageantry, national songs, etc. Take, for example, the flag. In some cities, the pledge to the flag has been insisted upon for all children. With elaborate ceremony the children are made to take the following oath: "I pledge allegiance to my flag and to the Republic for which it stands: One nation indivisible, with Liberty and Justice for all." In some other cities, children are made to salute the flag and repeat the pledge every morning when the school is in session with the deep solemnity appropriate to the occasion. These measures are excellent in themselves, but the meaning of the flag and the national ideals, traditions, and aspirations that the flag symbolizes, should never be overshadowed by the excitement of showy exhibition. Patriotism is an abstract term. The spiritual significance of national principles can not be intelligently appreciated without maturity of mind and openness of heart. Children of school age can not be expected to grasp the abstract principles without any tangible and visible form. Consequently flag salute is one of the means of teaching children what the country stands for. But it must always be a means, not an end. When it is conducted as an end in itself, then the flag becomes an object of fetish worship. This is quite obvious to every thinking person yet this is the very thing which we are likely to overlook.

Furthermore, in connection with the teaching of national ideals the duty of citizenship should also be emphasized. The ideals which the American flag symbolizes are most comprehensively stated in the first clause of the Declaration of Independence: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights, that among these are life, liberty and the pursuit of happiness." But every one of these rights has its correlative duty. The right to life imposes the duty to protect the life of others; the right to liberty requires obedience to law; and the right to happiness presupposes the obligation that the same right of others be not unlawfully interfered with. In other words, the right to citizenship

enjoins the duty of serving the nation whenever the service is needed at whatever cost. In America the individualistic tendency has always been in ascendency. The rights of the individuals have been over-emphasized while the duty to the nation often suffers neglect. Sometimes even the laws of the country have been flagrantly violated by the unbridled passion of the mob. Take for example, the mob laws, the lynching of the negroes, etc. America is fighting for the cause of democracy, so it is the duty of the American people to see to it that democracy is safe within their own national boundary. In this time of national crisis we need a new spirit of patriotism. Strike when the iron is hot. Now is the high time for the teachers to bring home clearly and forcibly to children the duties of citizenship. They would perform a task of a very high order, if on those occasions of flag days, patriotic pageantries, etc., they would tell the children what they ought to do for the country instead of pronouncing eloquent eulogies on the nation's glory and success. In a recent publication the State Council of Defense of Connecticut has stated this principle very admirably in the following words: "This war is bound to have a deep influence on American life and thought, and we should be watchful to direct this into right channels. The country is shot through and through with the one-sided philosophy that the State is an institution to be leaned upon and filched from, but not to be served. The schools should train the children in the fundamental contact between citizen and State. The idea of mutuality should be developed. The State owes duties to the citizen, but the citizen owes reciprocal duties to the State."

Teaching War Aims—Too much emphasis can not be placed upon the teaching of the war aims of America by the public schools. American population is of a cosmopolitan character. Many school children are foreign born and still more are of foreign parentage. "The native land has its ties on the heartstrings of its people." It is no wonder that some children are often ignorant of the cause of America, and, being influenced by their parents, incline their sympathy towards their native land. Shortly after the United States entered the war, a teacher in one of the large New York City high schools, where most of the pupils come from the foreign section of the city, asked 200 pupils of from 14 to 18 years of age to write a brief statement concerning the cause for which America went into the war. The dominating tone of the answers was very disappointing. Some of the answers are as follows: "Congress has declared war so that the rich folks can get richer," and "We are at war, because this is a rich

man's country."[5] This astonishing ignorance of the nation's motives indicates the great task which is before every one of the half million school teachers in this country. It is they upon whom America is relying to give the children some clear, definite information as to why America is fighting and what she is fighting for. If not they, who are the persons to do it?

Teaching the Ethical Values of Bravery and Self-sacrifice—Closely connected with the teaching of patriotism and war is the teaching of the ethical values of bravery and self-sacrifice. In this connection Prof. F. W. Foerster has quoted the following letter from the front describing the scene in a hospital:

"During the operation, which took place in a church arranged as a hospital, a bomb crashed through the church window above. Some of those assisting at the operation instinctively jumped aside, others disappeared under the operating table and others tried to save themselves by hasty flight into the sacristy or behind the altar. The shell-splinters and stones clattered through the church windows, and pieces of stained glass and of roof ornamentation rattled down on the reddish floor stones. 'Here we are operating!' said the surgeon unconcernedly; an energetic, 'Each one remains at his post' from the assistant quickly caused the people under the table and behind the altar to hurry forth. Calmly, as if we were in the operating room of a hospital, we worked ahead, looked for ducts, nerves, applied ligatures and sewed muscle after muscle to a useful stump. After the ligature the patient opened his eyes again soon, and murmured softly and contentedly, 'Ah, how well have I slept!' He would scarcely believe that he had already been operated on and that, in the meanwhile, almost the whole church had been destroyed. Astonished and amazed he looked at the ruined church windows. We laid him carefully on soft straw and while the hostile missiles thundering outside completed their work of destruction, he was already sleeping along toward recovery with deep, calm breathing."[6]

Another story told about the heroism of a British officer in the Western front is equally inspiring. During one fierce engagement a British officer saw a German officer impaled on the barbed wire, writhing in anguish. The fire was dreadful, yet he still hung there unscathed. At length the British officer could no longer stand the pathetic sight. He said quietly, "I can't bear to look at that poor chap any longer."

[5] Dean, Arthur D. Our Schools in War-Time and After, p. 42.
[6] Foerster, F. W. New Educational Duties of Our Time. The Pedagogical Seminary, March, 1918, pp. 76-77.

So he went out under the hail of shell, released him, took him on his shoulders and carried him to the German trench. The firing ceased. Both sides watched the act with wonder. Then the commander in the German trench came forward, took from his own bosom the Iron Cross and pinned it on the breast of the British officer.

These are two of the many hundreds or thousands stories of heroism and sacrifice which teachers can utilize for moral instruction. The heroic defiance of death in the fulfillment of duty and in the rescue of even an enemy who was in distress, as illustrated by these stories, will sink deep into the minds of children in their most impressionable ages. The sterile, cut and dried verbal method of moral instruction can be much vitalized, if the teacher can only have the vision, ability, and interest to do so.

II. Training in Patriotism

So much for the teachings of patriotism. Valuable as they are, the war activities in the schools will have a greater effect upon the thoughts, feelings and emotions of children than mere verbal instruction. They give children a sense of reality in actually doing something for their country. They develop in children a feeling of pride and responsibility by the visible and tangible services rendered to a much larger object than the selfish ego. They tend to react upon the life of children in a quickened consciousness of personal and national ties, and a keener sense of common sacrifice and common duty. In other words, they furnish a kind of moral training based on the conception of patriotism which is dynamic, real and concrete.

In Germany, as far as information is available, we find many war activities of the school children deserving our unqualified commendation. One of the most interesting of all these activities which have been described is the collection of metals and cast away materials. In some places the school boys turned out in great numbers with bags, toy or larger wagons, botanical cases, and all conceivable receptacles in a house-to-house visitation on the street; sometimes the interest of the children was so intense and the enthusiasm so great that they would cry if refused. The parents had always been asked to consent in advance and never failed to do so. Very often the men and women visited have allowed them to search cellars, attics, sheds, outbuildings and even dump heaps, for every kind of tin can, iron hoops, scraps of copper or brass, and many other cast-out things of every description. Occasionally they formed themselves into teams and had one or two teachers with them on the expedition. Those visited were

always glad to be relieved of refuse and often entered into the spirit of the children with great enthusiasm, going through the house from attic to cellar and giving up discarded things of considerable value. The boys entered into this work with intense fervor of competition, vieing with each other in the amount of things thus collected. When these were shown, the other children were usually stimulated to bring from their homes, or wherever obtainable, tiny things like buttons, penholders, etc., to enrich the school collection. What is the most important of all is that the children were always told with great detail by the teachers with regard to the uses of the things thus gathered and the stages of their transformation into war materials.

In England, although activities of the kind just mentioned have not been reported, yet the record of collections in money and of articles made in the schools for the troops at the front and in the training camps, for the hospitals, and for the prisoners of war in enemy countries is equally remarkable. From the report of the British Board of Education of 1915, we find a small village school in the north with 30 children on the roll collected in a short period 2,542 eggs for the wounded and made socks, mufflers, etc., in addition. In another east coast area the schools specialized for particular purposes, one sending parcels to prisoners of war, another knitting sailors' gloves, another providing clothing for refugees in France and Holland, another collecting and sending candles to a battalion in the trenches. A school in the same area showed its war fund, with a total of over 85 pounds raised by concerts, bazaars, and collections, and expended for a great variety of purposes. The enumeration of similar instances can be continued indefinitely.

Beside this collection of money and articles, work of a directly useful as well as of an educative kind has also been organized by the schools in connection with the manufacture of munitions or of hospital equipment. In a single secondary school in Breadford, more than 1,200 articles, including splints, crutches, bed-boards and rests, screens, rollers, trays, etc., have been made in the manual department during the school year of 1915. In another school in Midland county, hundreds of sand bags have been made by the children as well as a great variety of hospital requisites.

Works of this kind can be found everywhere. They are largely spontaneous in character, springing from the initiative of individual teachers or pupils themselves. They elude classification and cut across the formal divisions of curriculum. Yet who will doubt their educational value in the light of modern pedagogy?

In France, we find the same activities as we find in England. For instance, liberal subscriptions from pupils to the national funds, participation in the collection of gold, the dispatch of packets to soldiers, the donation of books to the children of reconquered Alsace, the help given to the orphans whom a school or class has taken under its charge,—these and many other activities represent the war work in the French public schools of to-day. As *The London Times* says in this connection, "The most detailed enumeration would hardly exhaust the activities of education in the common cause."

In Australia, we have the same story. Soon after the outbreak of the war, the "Young Workers' Patriotic Guild" was organized. The members of the guild pledged to do personal labor for the War Relief Fund. Any one who earns one pound by personal productive effort is rewarded with a certificate in colors signed by the Minister and the Director of Education. It was reported that thousands of these certificates had already been issued.

The most interesting feature of the guild is the kind of work in which the members engaged in winning the certificates. They have chopped wood, dug potatoes, milked cows; they have gathered bones, fat, bottles, wool from the fences and scrub, iron, kerosene-tins; they have snared and skinned rabbits, trapped foxes, caught fish, dug gardens, cleared tracks, done all kind of odd jobs at home; these and many other activities represent the kind of efforts the boys and girls have put forth in helping the nation in a great cause.

There are many stirring stories about the loyal services of the school children in raising the War Relief Fund, but only one may be mentioned here. In one school, in a very poor locality, a big lad took a job for the holidays. He earned ten shillings. When the school re-opened, he handed to his teacher all the money he had ever handled, tied up in a piece of rag. "I can't take it all, Jim," said the teacher, "give me half and keep the rest." "They want it more than me, sir," was the answer.

By way of introduction to this section I have cited a few examples of what has been done by the school children in foreign countries. Now we may turn our attention to the war activities in the schools in this country.

Junior Red Cross—One of the most significant movements in organizing school children for war service is the establishment of the Junior Department by the Red Cross. It has enabled the school children to take an official part in the educational work of the organization and served as an agency to

coördinate all the civic and patriotic enterprises that claim the attention of the public school. When the Junior Red Cross movement was on foot last September, President Wilson issued a special proclamation to the children of the country. A portion of his message is as follows:

"Our Junior Red Cross will bring to you opportunities of service to your community and to other communities all over the world, and guide your service with high and religious ideals. It will teach you how to save in order that suffering children elsewhere may have the chance to live. It will teach you how to prepare some of the supplies which wounded soldiers and homeless families lack. It will send to you through the Red Cross bulletins the thrilling stories of relief and rescue. And, best of all, more perfectly than through any of your school lessons, you will learn by doing these kind things under your teachers' direction to be the future good citizens of this great country which we all love."

This appeal from the President has expressed the pedagogical significance of the movement and in a large measure made its phenomenal success possible. By January 1, 1918, the enrollment was 860,741 pupils, in 2,531 schools, under 563 chapter school committees. Following the drive for membership in February, 1918, the membership grew rapidly until at the time of this writing, there are over 8,000,000 pupils under more than 3,000 chapter school committees.

The exact records of the contributions made by the Junior members in the form of various hospital supplies and comforts for the troops are not available. But we can safely say that there is no school in the country which has not taken up Red Cross work in one form or another.

In Plainfield, N. J., the first school to become an auxiliary of the Junior Department of the Red Cross was a school for sub-normal children. So far as it is known, this school, which raised its own supply by a sale of articles made by the children, was the first public school in the country to organize on the national plan.

In ten of the grade schools of the same city, Red Cross work has been systematically organized. The children in the first and second grades are snipping for ambulance pillows and making light weight books from old magazines for hospital use. The third, fourth, and fifth grades are busy on wash clothes and squares for bed covers, etc. In grades sixth to eighth the activities center around knitting and surgical dressings.

The pupils in the high schools have been organized into six units, namely, knitting, surgical dressings, comfort kits, sewing, clerical work and wood work. And what is more im-

portant is that all the work has been so planned that it may be done outside of school hours.

In the State of New York, six weeks before the declaration of war by Congress letters were sent by the Commissioner of Education, John H. Finley, to school officials thoughout the State, authorizing the sewing classes to do work for the Red Cross as a part of the regular class-work. The response was immediate; and many schools had been at work and thousands of articles had been turned out long before the organization of the Junior Red Cross.

In Los Angeles, California, where the public schools have been most efficiently organized for war service, Red Cross work was made a part of the regular curriculum. For the purpose of avoiding confusion and duplication of efforts various persons were appointed by the superintendent to supervise the work. According to the regulation no principal or teacher can use the pupils for any work of the Red Cross without the approval of the Chairmen who are in charge of the work. It was claimed that under such organization it was possible for the teachers and pupils in the elementary and high schools to prepare a very large amount of products without sacrificing any educational value. A recent school report of that city shows that within seven months no less than $23,000 worth of articles for the use of soldiers and sailors was produced by the school children.

In addition to this enormous amount of products contributed, a temporary Red Cross toy shop was opened in the commercial district shortly before the Christmas holidays for the sole purpose of selling articles made in the schools. The goods displayed were toys made in the manual training shops, and products from the Art Departments in high schools and from the department of Domestic Science in high and elementary schools. After all the expenses for raw material, transportation, etc., had been paid, a cash balance of over $1,500 was turned over to the Red Cross. It is true that the cash contribution from the Red Cross toy shop was not very great, in comparison with the other war activities which Los Angeles schools have undertaken. But the educational values, in the creation of designs, and in the making and coloring of the various articles, are very great. In this connection the report on "Los Angeles City Schools and the War" says: (p. 25), "At no time had there been greater enthusiasm in the shops than during the second half of the semester when boys and girls were engaged in the making of things which so happily reflected their powers of invention and industry, and which, because they were actually to be sold, afforded such a genuine sense of reality."

The other interesting activity undertaken by the Junior Red Cross in Los Angeles is the salvage work. It began with the saving of tin foil. From this very humble beginning, the salvaging of innumerable articles was undertaken. The school children were organized to collect all kinds of waste materials, such as dental fillings, waste rubber, cigarette boxes, typewriter ribbon boxes and metal spools, worn-out tires, books, magazines and newspapers, collapsible paste and paint tubes, etc. At the beginning the returns from salvage netted about $50 per month, but the latest report shows that the Los Angeles Red Cross derives a monthly revenue of over $600 from this source alone.

The children who participated in the work have developed a very surprising market for their rubbish. They at once thought that the typewriter ribbon boxes and spools should be worth more than the old tin plate, and so they approached the office-supply houses with the proposition that these articles be used again. They met the dealers' objection by suggesting that a little sticker reading, "Salvaged by the Red Cross," be pasted on each box. The scheme has proved very successful. The demand for salvaged boxes on the part of business men became very great and the dealers paid a very good price for them. Los Angeles uses 30,000 typewriter ribbons in a month. One can easily imagine how much material can be saved in salvaging this kind of article alone, if it is made on a national scale!

These are only a few typical cases of what has been done in Junior Red Cross work. Taking the country as a whole, the amount of products turned out by this new organization must have been enormous in the first year of the war, and it will probably be increased by many fold as long as the war lasts. As an example of war work this is inspiring. It is, however, worthy of consideration whether or not these activities have any educational value with regard to the content and method of school instruction.

In the first place, the Junior Red Cross work offers to the children a practical knowledge in many things which the traditional type of instruction can not and does not provide. Up to the present it has been difficult to devise ways in which the classroom activities in manual training and sewing may afford the means of really teaching the boys and girls something which will be useful to them when they are thrown into the world on leaving school. The cost of the material and the lack of means in disposing of the products have led to an artificial kind of classroom work. We are familiar with the cry of some teachers of manual training that the making of coat hangers, model joints, and book racks does not satisfy

the boy because he does not see the use of making them. They are in most cases used for the purpose of school exhibition and give no sense of reality nor pride of achievement to the maker. How very much more practical and useful will be the knowledge gained by making various kinds of hospital equipment for the Red Cross! Again, in the sewing classes the old types of instruction are still much in evidence. The pupils are usually made to labor over sample stitch cards, making a dozen long rows of various stitches, perhaps ten of which they will never have any use for. Then this is followed by making doll clothes. As the final stage of this sewing work the pupils may spend several months in making fancy graduation dresses. How much better would it be to give the girls a significant training in attaining speed and skill by making similar articles in large quantities for healing the wounds and relieving the sufferings inflicted by war? The Red Cross furnishes a justifiable outlet for the school products. It comes to the schools with a need of articles requiring no less technical instruction and skill than the ordinary classroom work. It gives children a genuine sense of practical utility of their daily labor.

In the second place, the Junior Red Cross gives children a concrete opportunity for service. Service is the watch word of the day. It has become the yard stick by which human character is measured. The chief value of the Junior Red Cross in education lies in the fact that it demands of its members service, a service that is given with sacrifice. It makes the children feel that they are not the negligible units of the country and that they too can serve very effectively in the times of national distress and need. It helps the boys and girls to forget their own selfish interests in an endeavor to work for others. If this is not the best kind of moral training, what better means can we have?

In the third place, the Red Cross study can be introduced as a part of the regular classroom work whenever the topic is being developed. Every kind of manual work has its cultural value, so has that of the Red Cross. In the public schools of Louisville, Kentucky, the study of the Red Cross organization has been carefully outlined for the regular instruction in the classroom. The outline covers a great variety of common school subjects, such as Industrial Geography, Descriptive Geography, History, Civics, English, Arithmetic, and Art, and shows that in every one of these subjects the study of the Red Cross organization and activity can be incorporated. Take for instance the Industrial Geography. The *Outline* suggests the following:

"1. Study of lumbering.
   A. The conservation of life in the lumber camp. A study of how the First Aid Department of the Red Cross co-operated with lumber companies and the Bureau of Forestry to introduce First Aid Instruction among the employees.
   B. Relief offered in times of forest fires, accidents, etc.
"2. Mining. The study to include:
   A. Instruction given to miners by the First Aid Department of the Red Cross.
      a. The extent and effectiveness of this instruction.
      b. The co-operation of the railroads in this work.
   B. Relief offered by the Red Cross in times of accidents, fires, explosions, etc.
"3. The rehabilitation by the Red Cross of places that have been destroyed by earthquake, floods, famine, fire, etc. For example,
   A. San Francisco.
      a. The disaster.
      b. The immediate relief.
      c. The permanent relief and rehabilitation.
   B. The Chinese Famine and Plague (1911-1912).
      a. Description and causes.
      b. Relief measures.
      c. The plans outlined by the Red Cross representative for preventing these floods.
   C. The Messina Earthquake.
      a. The disaster and general relief.
      b. Relief work at Syracuse; road making, shoemaking, etc."

Schools which are bound up with red tape and tradition, and school teachers who continue to teach history, geography and other school subjects in the same way as their grandfathers were taught, can have no sympathy with this Junior Red Cross movement, because it upsets the regular school program as the result of their inability to see things in a new light and to adapt their work to meet the new needs. But schools that are keeping pace with the modern trend of pedagogy will welcome this opportunity to vitalize their courses of instruction and curriculize such activities on the ground not only of patriotic service but also of pedagogical desideratum.

The Care of French Orphans—One of the most unique incidents of the war is the financial help given to the father-

less children of France by the school children in this country. The movement for raising the French War Orphan Fund was first started in Los Angeles and spread rapidly to other cities within the past few months. As early as June, 1917, an appeal was made by the Superintendent of Los Angeles to the teachers and pupils of the public schools to aid the fatherless children of France. This campaign aroused the greatest interest among children of all ages. Those who had money contributed very liberally to the cause. Those who had tender hearts but scanty means often denied themselves many things so that the unfortunate children in France might not go hungry. In one of the schools in that city, where the children bring a penny daily for milk, the children voluntarily went without their morning meal, then turned the pennies into the school fund designated for such relief purposes. It was estimated that $36.50 per year would save the life of one of these children of France. The total amount contributed by the Los Angeles schools up to the beginning of this year exceeded $20,000.

Besides this French War Orphan Fund, American boys and girls have begun in ever increasing numbers to adopt war-cousins, furnishing small monthly or annual amounts of money to enable the French widows to raise their children in their own homes. The war-orphan learns the name of his young American benefactor and keeps correspondence with him. Thus a bond of friendship is formed between them which will prove to be endurable and unbreakable.

In this particular kind of philanthropic work the Los Angeles schools have also done wonderfully well. Over a hundred of these children have been regularly adopted and the number has always been increasing. The most interesting features of these contributions were the letters sent by the benefactors to the little friends in need across the water. A few quotations may be made here.[7]

One girl writes: "It is not strange that as soon as you receive my letter we are going to be chums. I won't ever forget you, Jeanne, because I've already made up my mind what kind of a little girl you are. I would love to speak your language, Jeanne, my grandmother was French . . ."

Another girl writes: "I do not know you, but let us get acquainted with each other by writing often. I live in Highland Park, one of the suburbs of Los Angeles. It is a beautiful place, with its many flowers and delightful climate. In the distance are the mountains clothed in purple, nearer are the hills made green by the recent rains. The sunsets here are

[7] Los Angeles City Schools and the War. Bulletin No. 10, pp. 50-53.

wonderful. I am sure you would become an ardent lover of nature as I am, if you lived in Southern California.

"While we are not suffering from real want, we are denying ourselves to help feed the little French brothers and sisters of ours.

"I will close, wishing yourself and your comrades God's protection."

Another child writes: "I am writing to you to-day, June 29th, on the last day of school, thinking meanwhile that I do not know anything about you except that you are one of the five little French children who were adopted by the school. My teacher gave the names and addresses of the children and told us to write to one of them and I choose you. I am very sorry that you have had such a terrible war in your country and hope sincerely it will end soon. You have my deepest sympathy and not only mine, but I think I am safe in saying you have that of every boy, girl, man and woman in the United States.

"We are going to have a vacation two and a half months long and during that time I will think of you and I will wish that the war should be over and that you should be having good times also.

"My best two friends are sitting beside me writing to two other little French children. One of them, Juanita by name, is writing to your little brother so that you will receive both letters together. . . ."

Although this movement has not become nation-wide, a significant beginning has been made. The fact that many boys and girls in America are toiling and denying themselves to save the lives of many boys and girls in Europe will likely result in the creation of a new international spirit that will make the world a better, safer, and happier abiding place in the future. The world of to-day is to be the children's heritage. These heart-touching manifestations of true international brotherhood between the members of the coming generation are the most hopeful signs of a new international order which will forever make brutal warfare impossible.

Liberty Loan Drives—With regard to the various Liberty Loan drives the school children have in no small measure helped in making each one of them a success. From the reports at hand we actually find that millions of dollars were subscribed either by the pupils themselves or by persons solicited by them. No attempt shall be made to enumerate the various devices of the campaigns carried on by the school children, but the work done in this connection by the high schools in Detroit can not be left without mentioning.

Realizing the importance of enlisting the high school boys and girls of Detroit in the bond campaign, the Detroit Board of Commerce made, at the beginning of the second and third Liberty Loan drives, generous appropriations for the High School Committee. The Superintendent of schools, appreciating the value of services that would be rendered by the students and the benefits to be derived by them in an educational way, has authorized in each case all high school teachers of English to lay aside their regular work and make a study of conditions relating to the sale of bonds. Bulletins, which outlined the class activities and suggested the possible solutions to various problems, were prepared for the teachers and students. Numerous committees among the students were organized. Two-Minute Boys and Girls were selected. The weekly program of class activities during the period of the drive was systematically mapped out. The arts of salesmanship were carefully studied in the class room. And what is the most important of all is that a complete record of all the work done in the English classes was preserved by a collection of scrap-books and portfolios which contain materials of an intensely practical and patriotic nature ranging from salesmanship talks and sales letters to plans of reconstruction after the loans have been oversubscribed and final victory achieved. Each English class was required to present a scrap-book and a portfolio in an attractive and creditable form to the Head of the Department of English or to the Principal as evidence of the fact that it had continued its training in English and had accomplished other patriotic duties at the same time. The scrap-book contains newspaper and magazine clippings, circulars, posters, pamphlets, government documents, pictures, cartoons, advertisements, and a collection of stray odds and ends bearing the spirit of the campaign. The portfolio contains copies of patriotic speeches, selling talks, dialogues, detailed minutes of class programs, book reviews and digests of magazine articles, copies of advertisements and posters prepared by the class, sales letters, a final statement of the results accomplished, and comments upon the weakness that might be corrected in future campaigns. From among the scrap-books and portfolios presented by each of the grades in the high school, one of each will be selected for exhibiting in the public library or other places accessible to the public at large after the drive is over. The whole system is so unique in every respect that I have no doubt that the interesting documents thus preserved will have a very great historic value for the future. Schools which have done much in training the pupils for such patriotic service but have not made any pro-

vision for keeping the record of their work, should find such a system worthy of imitation.

War Savings Movement—This movement was first started in England. On May 5, 1916, the English Board of Education, at the request of the National War Savings Committee, issued a circular asking for the assistance of local education authorities in making known through the public schools the facilities for saving afforded by the issues of war savings certificates. With the co-operation of the authorities and teachers, special lessons were given on the subject and copies of a leaflet explaining the purpose of the war savings associations were widely distributed to parents through the children. As a result of the campaign a large number of war savings associations have been formed in direct connection with the schools, and hundreds of thousands of certificates were purchased by their members. The following are some typical instances of this movement as reported by the British Board of Education.

"In one large populous Midland County the great majority of the schools have established associations. Most of the village associations were started by the schools and have grown until they have gradually absorbed the village; one association thus formed in a remote village of 245 inhabitants has 77 members and has purchased 556 certificates. In another Northern County some 70 per cent of the schools are taking part and there are nearly 10,000 subscribers; 3,200 certificates have been bought. In a large County Borough in the Midlands, with 50 schools, an association has been formed in every school; a smaller Borough in the West of England has 20 schools and 18 associations. Some striking examples of the success of individual schools are reported. In one Midland town a school of about 1,400 children purchased certificates to the value of 585 pounds in three months, of which one was a holiday month. In another school of 500 scholars in a Northern town every child wrote a letter to his parents asking permission to join the School War Savings Association, and the response was so good that on the next morning when the first subscriptions were received no less a sum than 234 pounds and one shilling was brought by the children. One school with 400 children, in a Northern County, has subscribed 1,557 pounds and 1,500 war certificates have been bought. A remote little school in the same county, with only 10 children on its books, has 10 subscribers to the association, has saved 35 pounds, and bought 43 certificates."[8]

So much for England. Shortly after America's entrance into the war, a plan for two billion dollars of War Savings

[8] Report of the British Board of Education, 1915-16.

Stamps was put into practice. From the answers to my questionnaire in this connection we find that members and officials of many school authorities, teachers and pupils have all entered into the thrift campaign with enthusiasm. In some cities the school savings banks have made special provisions to facilitate the purchase of War Savings Stamps by the children. In some others the principals and teachers are doing everything possible to encourage the children in this national undertaking. In still others, W. S. S. clubs have been organized among the pupils of some special classes. In other words, the public schools have responded very loyally to the appeal of the government in its endeavor of financing the war.

Now we may ask what is the significance of the movement from the educational point of view.

In the first place, such movement will serve as a great means for the inculcation of the principles of thrift among children. There can be no doubt in the minds of clear-thinking Americans as to the imperative necessity for thrift. America is the most prosperous nation in the world and is perhaps also ahead of all other nations in prodigality. Prosperity begets extravagance. Average people in America can earn money very easily. They are getting the highest wages in the world; they have had the best opportunity in the world to save. But unfortunately, they are inclined toward improvident living and do not spend their earnings with wisdom and prudence. According to a recent estimate the per capita savings in America are $50, while in Denmark and Norway the per capita savings are $70, in Switzerland $86, in Australia $91, and in New Zealand $98. It is quite apparent that the American people have not learned the lesson of thrift. The only way to remedy this condition is to teach thrift as a branch of public instruction. The schools must bear the responsibility of teaching the chilren not only how to earn, but also how to save and how to invest, and through children the public may also be enlightened.

Schools that have not taught thrift in an effective manner can now utilize this war savings movement to drill into the children the thrift principles on the grounds of pure patriotism. Tell them that those young men who have donned the khaki, or have taken service in the navy, or enlisted in the aviation corps have responded definitely and valiantly to the call of duty, so it is the obligation of those stay-at-homes to save for themselves and to serve the government in financing the war. Teachings of this kind do not rely upon precept but rather on daily practice backed by a lofty and noble motive. Once the habit of thrift is formed, it will become

the "possessor's second nature" which can not easily be discarded.

In the second place, the war savings movement may mitigate the dangers of war with regard to the children's moral welfare. In England, the cases of juvenile delinquency have increased 34% in seventeen large towns investigated.[9] One of the chief reasons for this increase is due to the "high wages earned by the children with absence of adult direction as to their disposal." As a direct result of the war, boys and girls have been largely employed at excessive wages. This earning power has developed a pseudo-independence which shows its demoralizing effect in a great many ways. This is one of the social problems England is facing to-day. In America the increase of juvenile delinquency has not been much in evidence. But with the scarcity of labor, the employment of children, especially those of high school age, has given them an unprecedented opportunity to earn good wages. Since in childhood and youth instincts are strong and impelling for gratification, it is difficult for children to restrain themselves from yielding to attractive temptations on every hand, especially when they have plenty of money. The safest and surest way to safeguard their moral welfare is to create and foster in them a new interest and a new habit of thrift, so that they may invest what they have earned. The war savings plan seems to be a superb means for this purpose.

In the third place, the training in thrift through the purchase of war savings stamps has a moral as well as a social value. The individual power of self-reliance must have thrifty practices as a foundation. Children who know what to do with their earnings, and who have a little savings in the bank, will feel augmented self-respect, widened mental interest, more sense of responsibility, and greater power of self-denial. The pride of really having earned something and the feeling of ownership give them a wholesome sense of self-dependence, upon the cultivation of which modern pedagogy can not lay too great emphasis.

In conclusion, I may say that war has afforded a very great opportunity for direct moral instruction and training. Teachers who had felt that verbal instruction in ethics tends to be uninteresting and inefficacious can now base their teachings upon the broad conception of patriotism and personal sacrifice

[9] The investigation was made by comparing the number of the juvenile court cases during the three months Dec. 1914 to Feb. 1915 with those during the three months Dec. 1915 to Feb. 1916. For detailed information, see: "The Child and the War." By Cecil Lesson, (P. S. King and Son, Ltd., Orchard House, Westminster, 1917, 70 p.)

for country. But the task of the American school in these times is not to arouse in children vague emotions of a patriotic flavor, but to give them a new view of social and civic responsibility. The extraordinary demands of war service may in some slight degree disturb the ordinary school program, but such a disturbance may be a blessing in disguise. Every kind of school work may be motivated through the spirit of patriotism. Every kind of war service may augment the sense of loyalty and self-subordination in children. The educational benefit derived from the war activities may offset any real or fancied losses of school time. Will the public schools prove themselves equal to this new opportunity and new task?

SOME EDUCATIONAL VALUES OF WAR*

By G. Stanley Hall

This war is the most tremendously important event in all the history of man and we are just now very near the greatest crisis the world has ever seen. The war and its needs are the chief occupation of nearly a score of the leading nations of the world. Freedom vs. domination of some kind has been the stake of every war since the first tick of time, but in this colossal contest the issues of all previous wars are pooled. What happened in the world before 1914 already begins to seem a bit far off, unreal, and insignificant by comparison with the mighty fates that crowd the here and the now. We are making history, as it were, a century a month, and changes of sentiment and activity that once took a generation may now occur in a week. As Lincoln said this country could not remain half free and half slave, so we have decreed that the world cannot be half autocratic and half democratic, but must be all one or all the other. In the old era that closed four years ago how easy, selfish, thoughtless, careless, sometimes mean and sordid we were; but now men do every day deeds that equal or surpass the most splendid achievements of the heroes of old which our text-books praise. The divinest figure of the past suffered and gave His life freely for others (greater love hath no man than this, that a man lay down his life for his friends), but hundreds of thousands are dying for just that end in their way to-day.

We have praised unity and fraternity, but our people have been a congeries of a score of nationalities which had known little of the melting-pot; now the masses and classes, capital and labor, sects, parties, races, colors, are being bound together in camp and trench by the strongest of all human ties—that of brotherhood in arms, so that the nation is now achieving a new and higher unity. What is more and even better yet is the comradeship of our soldiers with those of all our allies, so that we are now one with the men of England, France and Italy by ties that no treaty or league of nations could ever effect, for it is the bond of a common cause, a common life, a common enemy, and perhaps a common grave, in that great-

*Address delivered at the general session of the N. E. A., at Pittsburg, on the evening of July 4, 1918.

est cemetery of the world that stretches four hundred miles from Switzerland to the North Sea. Neither we nor they dreamed that these men in the third and golden decade of life from the farm, factory, the shop, the college, could become in a year so stalwart of body and of such heroic mode of soul, and as we realize what they have become and are doing and that their sentiments and ideals will dominate this country for the next generation, we feel satisfied and proud as well as safe.

Oh, the splendor and glory of "the day" that has come to us Americans! We have our "place in the sun," for it is ours to save Europe and the world for democracy. From England we hear how men have forgotten whether their ancestors came over with William the Conqueror, or whether their mates are rich or poor, educated or ignorant; and so here we ask no longer whether men are descended from the Mayflower Puritans or the Cavaliers or are Sons of the Revolution, but only whether they have the one quality that alone makes man complete,—courage, and the temper that can risk life for something dearer and greater than the individual life Thus a new order of nobility and a better natural grading of man is at the door. A French peasant marched from the south to the north of France, and was so impressed by the beauty of the country and the glory of the cities of his native land, that he wrote that it would be a high privilege if he were counted worthy to die for so glorious a fatherland. Another vowed that he would keep himself pure and make himself as perfect as possible in body and in soul, in order that if he were called to make the supreme sacrifice his offering might be worthy. Another sent home a prayer-poem thanking the dear Lord that he lived in a time when a year was worth a millennium, and especially that he was able to be in this greatest and noblest of all wars, to die in which, if he had to, would shed lustre upon all his relatives. Of "soldiers three" who went over the top one, a Protestant, was fatally wounded at the barbed wire before the enemy's trench and called to one of his colleagues, a young Catholic priest, to creep out if he could and administer the last sacrament before he died. The priest went over the hell-strip and had just extended the crucifix over his friend when he, too, was shot. The third friend, a Jewish Rabbi, seeing the situation, crept to the dying man, seized the crucifix and gave the dying man absolution, the Jew absolving a Protestant Christian by a Catholic rite, illustrating thus the sympathy of religions or the unity of brotherhood that underlies them all in the great cause. The French collected thousands of these authentic incidents, these new *acta sanctorum,* and on these

base their exhortation to fight now and regenerate France later gloriously, in such a way that none of these sacrifices shall be in vain, for never was there a cause so well worth suffering and dying for. The grandson of Renan, Psichari, shot at the head of his battery, left a story, one of the most popular of all in the French trenches, amplifying the tale of Jesus and the Roman Captain who asked that his son be healed and professed faith that it only needed the word at a distance to do it. Jesus, elsewhere reluctant to heal Gentiles, did so with remarking that nowhere in Israel had he found such faith, thus showing, we are told, that Jesus best of all knew the superior deference due to the true soldier.

Whatever was there in the past, in history or even in literature, that cannot be paralleled or surpassed in high moral quality or in significance in the events now current over there?

Now our every energy must focus on winning the war, putting out the fire in this world-conflagration; but as Chicago, Baltimore, San Francisco, and once London reduced to ashes had to be rebuilt afterwards, so when peace comes we shall have to enter upon the long and stupendous task of reconstructing our industrial, economic, social, political, hygienic, moral and even religious life and institutions. Things we have never dared to doubt are now open questions. Folkways we thought solid are now plastic, and we must revise, if not rebuild, a large part of the whole structure of our civilization and make nobler mansions for mansoul. It is a new cosmos that is about to be, and it is our tremendous task to use these opportunities and incentives in a way to make the world enough better than it was to pay for all this horrible sacrifice and to usher the rising generation into a new kingdom of man, just as at the present moment we must get all the virtues and abate all the evils of militarism and find out, not one, but many, moral equivalents of war.

In this situation, which is, most of it, beyond all precedent, what is the chief duty of every teacher in the land? It is, in a word, to utilize to its very uttermost, and at every possible point, the tremendous energy of interest and incidents to inundate our educational system at every grade and every topic with the very purest spirit, of loyalty, sacrifice, courage, hardihood, and of national and racial solidarity, which has its culmination in the metal of our heroes at the front. It is the boys and girls now in the school that will win or lose the great war after the war. The spirit of our boys over there is itself a splendid epistle known and read of all men of what the school, among other agencies, has done for them. The new method of grading the merits of our schools and school systems

now is by what they are doing in all the complex processes of food production and conservation and in all other war modifications of school activities, in which our census shows enormous diversity of service in different states and cities. Some schools and individual teachers have shown something near to pedagogic genius in using war interests in the teaching of geography, not only keeping tab on all the battle lines on all fronts, but upon every center of military and naval, and even administrative activity in the west or the east. Some teachers of history have achieved remarkable results in turning on the war zest, realizing that history is now being made at a vastly more rapid rate than ever before and that present happenings are more significant for their pupils than all the events of the remote past, so that the right and adequate teaching of current events now can educate in a sense that all the rest of the curriculum combined cannot do. Other schools start war museums, encourage war diaries, correspondence, compositions, debates, war scrap books and even poems. Germany announces that her school boys and girls have written between two and three millions of war poems, the best of which are rewarded by prizes and printing, for she recognizes that poetry is the vernacular of the heart, that the heart makes disposition and is three-fourths of the soul. Several of our states and more cities have organized junior military training in high schools, and some have real rifle practice like military manoeuvers; some hold that all-round physical training is the best fore-school for military training, while still others hold that modified Boy Scout activities are best to develop military qualities in the teens, although we must admit that all these lack something of the spirit of rigid discipline, subordination and splendid *esprit de corps* which actual soldiering gives and which heaven knows our callow, shambling American adolescents need, especially now when so many fathers are called away, so that boys are growing wild and slightly criminal, for want of a touch of the real military spirit which has a unique power that physical culture never can attain to make men out of hobble-de-hoys. The more work the schools can do in selling Liberty bonds, thrift stamps, doing Red Cross work, singing and hearing the best camp songs, gathering posters, slogans, reading up about the Kaiser and his six sons, who, if Germany wins will sit on six thrones, the Hohenzollerns being the ablest and perhaps the most consummate egoists among all the ruling families since the Caesars—the better. The more countless activities born of the present emergency, the better. Concessions as to high requirements for graduation and promotions in school and college are amply justified in the minds

of all who realize the larger education that comes when the life of the community, the country, and the world, flows over into and irrigates the school so that it can teach life as never before. We must make no concessions to the narrow jingoism that would abandon now the study of the German language and history. German pedagogues, unique in their hatred of everything English, agree that this language and literature must now be studied as never before, and the same is true here, for whatever the issues of the war, German will be needed as never before for practical if not for cultural purposes.

The war is even more transforming colleges and universities. Chemistry gives special courses and promotes research on explosives and gas warfare, perhaps to be the warfare of the future; physics tends to focus on electricity, projectiles and the principles that underlie the mechanism of aeroplanes and submarines. Biology emphasizes eugenics and hygiene. Geologists help lay out trenches. History is more military and diplomatic and has a new interest in international law. Sociology and economics are absorbed in the reconstructions of all our industrial and social institutions that impend. Theology, law, and, most of all, medicine, are more practical, for everywhere the pure is yielding the saddle to applied science, while some academic departments are being neglected as if the students felt that they might be condemned as unessential industries. We cannot check or very much direct these trends, and they will increase every month the war lasts. It is simply common sense to accept and make the very most and best of them.

Finally, the future is our Muse. She is now invested with a promise and potency unsurpassed in any prophetic age. "Our hearts, our hopes, our prayers, our tears, our faith triumphant o'er our fears, are all with Her." The best things have not happened yet and all history so far is only the prelude to the All Hail Hereafter. In these times it is indeed bliss to be alive, to be young is heaven, old men are seeing visions and young men dreaming dreams, because if all this awful sacrifice and slaughter is not to be in vain there must emerge a new world wherein liberty and justice for every man, woman and child will prevail, wherein right, and not might, rules, where Kaiserism in every form, even that of trusts, monopolies, profiteering and the political boss, a superstate and the superman, dogma, autocracy, and militarism, shall be done away and the true kingdom of mansoul shall be made safe by defeating German militarism and kept safe on one or another of the great plans, British, French, or, perhaps better, an American plan for a league of nations.

A GENERAL SURVEY OF CHILD STUDY*

By G. Stanley Hall

Twenty-five years ago child study was in its lush and lusty childhood. Besides the older European writers, Lazarus, Ploss, Preyer, Perez, and others, American students, preceded by Bowditch and Porter, had begun their work. Earle Barnes had shown what the questionnaire can do. Miss Shinn was making her epochful studies of an individual child. Baldwin was construing geneticism philosophically. E. H. Russell had his unique method of spontaneous observations and was teaching psychology in normal schools with these data as texts. Chrisman had but lately given us the term paidology. Chamberlain was studying the savage child and there were already many monographs, topical syllabi, child study organizations and even journals. The questionnaire, a method borrowed from the anthropologists, was everywhere and called for information on every subject. As I look over the library I have been accumulating for years upon this theme I am amazed at the range of topics, some two-score papers on children's vocabulary, language and even "slanguage," more than a score on growth in height and weight, often specializing on growth of different parts and functions. On hygiene there are papers without number. We tried, too, in this way to study all the different feelings, sentiments, and emotions, laughing, crying, fear, anger, pity, and the sense of self, love of many kinds, religion, the child's feeling toward the blue sky, stars, clouds, sun, moon, storms and lightning, wind, fire, stones, trees, flowers, animals, and certain special types of animal life, to find the germs of totemism. There have been a score of biographical studies of an author's own childhood, from Howell and Warner all the way to "Una Mary" and Mary MacLane; and biographies as well as autobiographies have been much more prone of late to stress the early years of life. Then we have a copious literature on play which has resulted in the significant playground movement, many a study of special games and even puzzles, dolls and toys, general and special, quite a literature on creeping, walking and running away, others on certain nascent periods represented

* Address delivered at Pittsburgh, July 4, 1918, in commemoration of the 25th anniversary of the Child Study Department of the N. E. A.

by the acme of teething, puberty and adolescence, and now precious data about physiological and mental age, while even the age of the teacher has been under investigation. The development of the function of each sense, of motor abilities, as represented, e. g., in drawing, have been less investigated, and we have very suggestive papers on such topics as twins, geniuses, freaks, even dwarfs and monsters. The study of not only normal but abnormal children has been extensively pursued so that we now have a pretty good knowledge not only of the adult criminal, thanks to Lombroso and his school, but of juvenile and infantile criminals extending even to early proclivities to special types of crime, a work that has evolved into the juvenile court and the social work connected therewith. More fruitful than the studies of delinquents have been the studies of retarded children, especially since the Binet-Simon tests came into vogue, so that, as everyone knows, we can talk with some definiteness now of psychological age, and in this domain we have a sheaf not only of special studies that add to our knowledge, but of practical methods.

Here, too, opens the great field of eugenics and the study of abnormal and gifted families with a line of investigation now, thanks to Carnegie, represented by a valuable institution at Cold Spring Harbor. Studies in this domain have shed a very precious light upon the whole topic of heredity, and are slowly laying the foundations for improvement in our mating practices, if man can ever learn wisdom from science in a field where instinct has so long ruled.

The study of childhood has often been called a Copernican revolution since before it the child was adjusted to the school, whereas now everything in the entire educational system is conditioned by the nature and needs of the child. This we are seeing now in a most striking way in the careful elaboration of scales, standards and tests of proficiency in the different school topics, so that we have a pretty exact knowledge of the proficiency a child of average ability and opportunity should have attained in each branch at any school grade. In this practical country where knowledge is so prone to be put to work, we have, according to the Smith classification, now over one hundred types of child welfare organizations so that if there be any truth in the accusation sometimes made that in a country where there are a million childless homes, we have been in danger of losing close and sympathetic touch with childhood, we are at any rate trying to atone for this defect by the method of conscious compensation.

We have published various studies upon children's spontaneous organizations, but it was in England, which has done less in this field, that one of the best of these, the Boy

Scout movement, had its inception; while it was France, where somewhat more has been done, that gave us the Binet-Simon scale, ingenious modifications of which the Yerkes Committee is now applying so effectively in our army camps. There is some propriety, too, in claiming the efficiency movement, especially as represented in the corporation schools, as a congener of paidology, for here we have special, if as yet somewhat intuitive and not yet methodized, methods of selecting everywhere the best man for each job as well as eliminating useless movements and wasted energy in doing it.

For a decade or two this country led the world in the special studies of childhood. With the work of Stern, Meumann, and others, Germany took it up and has made contributions of very great value, not only improving upon our technique but adding to our methodology in some points. It would be fatuous to attempt even an outline, still less to give any proportions and evaluation of this great movement. We have a few excellent outlined texts with bibliographies, Luckey being the latest and therefore, as it should be, the best, but when the whole story of this great movement is written in full it will be found to represent a valuable renaissance of humanism, for until the war came we were likely to have more and more cause, with Ellen Key, to call this the century of the child.

Child study seeks to trace human nature to its beginnings, to detect and mold character in the gristle. It is therefore inseparably allied with evolution and, more specifically and in general, with the study of the childhood of the race and of primitive man in particular. Indeed, paidology ought to be considered henceforth as a most important department of the vast field of the study of man or anthropology. It marks the advent of a humanistic wave into our educational system, that was in danger of becoming mechanical in a sense that was more or less inimical to the life and spontaneity which all great educators have supremely stressed. We had, to be sure, the arid Herbartian formulae praising interest, but it is child study that has taught us that interest is the very muse, we might say, the Holy Ghost, of the school, without which all its work is deadening rather than vivifying. Interest is the first manifestation of any and every kind of ability, and it is almost a sin not entirely unlike rape itself to force knowledge upon reluctant or indifferent minds, because such unwilling knowledge becomes a burden and reduces rather than gives power, while teaching to souls already eager for it is a function akin to that of procreation. It is, as Plato first conceived it, no less sacred than the consummate office of true love.

But I turn from these more familiar fields to indicate also only roughly and inadequately, as the most notable of all

contributions to paidology, those that have come to us from the psychoanalysts. Here we have studies of perhaps two-score eminent men and women which show how the chief influences that shaped their characters and their careers originated in the infantile years, and added to this we have what has been estimated at nearly two-score thousand clinical studies that show that it is to these years that we must chiefly look for the sources of all mental and moral abnormalities. It is preëminently thus during the first four years of life that all the fundamental traits of character and disposition or diathesis are formed. These very rarely change after the age of three or four. These are just the years that the adult forgets, but the character of life-interests, the intensity and direction of their momentum, are already established. The infantile in us is the unconscious, and the unconscious includes most of what we call instincts, feelings, sentiments, emotions, or, in popular language, the heart, out of which are the issues of life. The studies of childhood in this field thus take us down to deeper strata of human nature than the plummet of any previous psychology has sounded. The child is vastly older than the adult, not only in the fact that its traits precede those of adulthood, which is a far later acquisition, but the mainspring of every disturbance of sanity or virtue is also found in this first quadrennium of life. Moreover, all through life we live on a very slippery genetic scale and easily slide back or relapse into infantile states if fatigue, disappointment or disease befall us. All the delusions of all insanities, all our dreams, are made on the same pattern as our habitual dream-types, and these are the warp and woof out of which the day-dreams, reveries and wishes of childhood, which fancy can so often almost make come true, are made.

Thus the theoretical and the practical in this new line of paidology are closely knit together, and we have here at last found a number of fundamental mechanisms which go distinctly beyond the old doctrine of the four temperaments, a field where psychology had made almost no progress all the way from Hippocrates to Wundt. I have time to-day to glance only briefly at a very few of these traits.

(1) Perhaps there is no single antithesis that has been more often stressed of late, and that by men of every ilk, than that between the active and the passive. Nietzsche, James, Freud, Jung and many others have noted the contrast between the active, positive, aggressive man and the passive, receptive type, and to this pair of qualities each has given his own technical terms. The distinction does not, save in a general way, coincide with that between male and female.

Some children are born leaders and others no less born to follow. The actives are more prone to anger, the passives to fear. The one prefers to do things, the other to know things. One transforms the physical, social environment to fit his will, while the other may have a genius for adaptation and adjustment. The one wills, the other knows. In their pathological extremes the actives may be cruel and inflict torture, while the passives sometimes actually crave to be made to suffer or to be victims. It is interesting and important here to note that these studies have given us a radically new conception of both fear and anger. We have judged anger from its unfavorable outcrops, irritability, oaths, bestial rage, etc.; but in fact we now know that these are only the by-products or rather the abortions of human life-energy, so that what we have been prone to condemn is in fact the very most precious material of life; it is the essential push-up that makes the evolutionary nisus which impels everything young on to maturity, that subjects nature to man's control. In fact it is the ultimate principle of human energy, man-power, physical or moral.

So, too, the opposite impulse of fear has been another of the great well-springs of life. Man's fear of shock made science, which is prevision. His fear of disease created medicine, health, insurance, hygiene. His fear of extinction and death made the immortalities; while all knowledge and receptive processes, and in general plasticity to the environment, represent man's power of adjustment or *Einstellung*. This great distinction is as much marred by calling the one extreme Sadistic and the other Masochistic, as it would be to call the active type of character carnivorous and the passive herbivorous, as Bryant and Goldthwait do.

(2) Another trait of the utmost consequence to all later life, and the foundations of which must be laid in the first three or four years of life, may be dubbed erethism. Some have marked power, which others lack, to draw upon reserve energies in emergencies; and we all have experienced the phenomena of second breath and have heard boys warn their mates not to make them mad lest they become dangerous and uncontrollable. It is only another aspect of the same diathesis that often brings the mental reinforcement and exaltation that poets call the afflatus of a muse, religious inspiration by the spirit, etc. The psychological war studies to-day abound in records of young soldiers from the office who had little physique and who were easily fatigued, but in great emergencies seemed somehow to be able to tap reservoirs of energy that their more stalwart brothers in arms could not

do, and when the latter were all in would go on and perform prodigies of physical and moral heroism which surprised themselves. It is of course invaluable for each of us to be able to draw at need upon a great power not ourselves but which is thus placed at our disposal, and what is this power? It is simply that of the race which underlies the individual. Our conscious personality is based on what we have experienced in our own individual lives, but that is only a shallow surface current and far beneath that is the deeper tide that has always swept the race onward toward its goal. The power to meet unusual emergencies adequately and well, by drawing upon the capital hoarded up by our ancestors in us, is one of the chief desiderata of life, and we know now much of the regimen which adds or detracts from this power which has its nascent period in infancy.

(3) Somewhat related to the above is the distinction between the egoist and the altruist. There are those who all through their lives tingle with self-consciousness, are self-centered, prone to selfishness in all its ethical senses and in whom Spencer says individuation has been overdone. The hypertrophy of this trend of human nature makes that modern monster, the superman, who deliberately resolves to have, do, get, be, everything possible regardless of the means thereto. On the other hand, we have those who recognize that man is predominantly gregarious, a socius, that the individual ought to be only a cell in the body politic, a bee in the hive, every activity of which is in the service of the hive as much as if the bee were only a cell in an organism. Self-abnegation, sacrifice and even self-immolation may be a passion of this type. They instinctively prefer not their own but others' happiness and welfare. It is their chief delight to serve, to minimize, efface and even evacuate themselves. This type can really love other persons or die for causes greater than themselves, while the opposite type can never love or serve anything but self. The egoist is sometimes like the foppish Narcissus adoring his own beauty mirrored in the spring, or he may become a criminal largely because he lacks natural pity or sympathy, and so cannot feel the rights or the sufferings of others. In Christianity these types are set forth in their extremest form in the antithesis between the conceptions of Satan, the monster of selfishness, and Christ, the paragon of self-sacrifice.

(4) In the first triennium or quadrennium of life the fundamental attitude of the individual toward authority is pretty well established. The father is the child's first object of awe and reference. He apes, would be like, his father,

but nevertheless sometimes has to submit to his father's will, perhaps even to his chastisement. So love and respect may alternate with resentment, and obedience with revolt. Now the father for the child is the modulus or pattern on which are fashioned the child's attitude toward great men, the community, the state, the church, or perhaps God himself, whom he must always both love and fear. On the one hand, we have those who develop morbid symptoms at every suggestion of control, constraint, command. They are negativists or what are called kurophobes, to whom any suggestion of compulsion seems an infraction of their own sacred and inalienable liberty to do anything they please. Law and order irk them. They are born rebels, incorrigibles, anarchists, perhaps become conscientious objectors against military service or tax paying. To conform or sometimes even find that other people agree with them makes them unhappy because they wish to be utterly unique. Now all these attitudes,—political, social, religious, economic,—which determine whether men can do team-work or must always play a lone hand, are predetermined by the infantile attitude toward the father; and not only that, but we are told that all happy marriages are those in which, albeit quite unconsciously, the boy weds a younger replica of his mother, and the girl of her father, so that parents are setting patterns for future life-partners. Now some men ought to be rebels, to attack existing order, to be pioneers, to break out new ways for mankind in the way of discovery and research, and this general law is only a large expression of the fact that there comes a time when every child has to break away from parental control and set up for himself. This is all prefigured in the oscillations between the attitude of submission to the father and revolt against his will in the early years of life, for this predetermines our later attitude to all authority.

(5) Very interesting and important, too, is the principle of compensation. If one hand or arm is weak the other may be excessively cultivated, as in the case of the Kaiser, whose fine right hand and arm compensate for his withered left in a way that impels him to speak so much of the mailed fist, which is a modern translation of the hammer of Thor. The blind compensate for the loss of sight by the over-developing of touch. Demosthenes stammered, but, by the use of pebbles on the shore, more than overcame this handicap. Beethoven suffered from deafness. Very tall boys are prone to stoop, little men to strut and perhaps cultivate heavy voices and the mannerisms of great leaders. Ugly men and women have a stimulus to compensate, as Socrates did, by developing intel-

lectual charms. Now every child loves to draw attention to itself and to be served. It may in very early life become a little tyrant, so that it may have a sense of almost absolute power. On the other hand, it also has a sense of its weakness and smallness. It has a sense of its own inferiority and limitations. It is small, weak, and one of the chief stimuli in the lives of all of us is to conceal or make good for certain defects of which we are aware. We thus instinctively pad our minds and our characters as well as our bodies. Wherever we are born a little short we invoke culture to help us make good the deficiency. If man lacked a sense of imperfection and did not at the same time strive for perfection he would be without one of the mainsprings of everything that is good in the world. So, too, the principle of compensation is seen in diseases. It is only when the heart, stomach, lungs and nerves, are more or less disordered that we become conscious of them. Thus we reach the stupendous generalization, so rich in theoretical and practical consequences, that consciousness itself is remedial, that it is a form of compensation for arrest, defect, or perversion, and we have here another apparition of the universal "push-up," *élan vital,* the libido, or horme, or will to live, some manifestation of which all these names, that are all various terms for the underlying impulse of development which is far more active in these infant years than later, express.

(6) More difficult, perhaps, than to avoid arrest is the maintenance of psychic unity. The soul, as genetic psychology conceives it, is a congeries of very different and often diametrically opposite activities. We have first the great contrast between states of pleasure and those of pain, each of which has a mental horizon of its own. When we are elated we think and feel and will differently from what we do when depressed. Feelings especially go in pairs. Fear that flies stands over against anger that fights; love may pass over to its countervalent opposite, hate. Instead of pity there may be cruelty. Thus there is constant need of synthesis, and feeble, degenerate or exhausted souls may even be split into multiple personalities when associative bonds that knit up the different and contrasted factors are weakened or lost. Thus one function of education is to so organize the soul that all its powers can be brought to bear together and that there shall be no dissociated functions that work in isolation disrupted from the whole. The very complexity of modern life, with its innumerable specialties and interests, aided by the commingling of different racial stirps, makes compactness and harmony of all parts more difficult. Man has always in-

stinctively felt the need of tempering childhood and youth by experience of very intense emotions and in infancy the soul is all emotion. The French psychologist, Taine, insisted that sanity was only balance between different opposite insanities, and we know to-day that impulses and their inhibitions make up a large portion of human experience. Now it is in the first years of life that the ego spheres itself into individuality, and mature life is little more than an amplification of the impulses of tender years.

Thus, in fine, I have touched upon only six of the score or two of psychic mechanisms which have been definitized by this new line of psychogenetic study, which has made contribution to our knowledge of early childhood at once so precious and practical that it can no longer be ignored. Of course there are many themes of the old child study which are unaffected by the new, and of course, too, there is always grave danger of inferring from the abnormal to normal. But the chief handicap which has prevented the just evaluation of psychoanalysis and made the very name of its most important originator a term of reproach, has been the unfortunate fact that his own investigations have been so closely bound up with sex, which to some of his older disciples in this country became almost an obsession. Now, thanks to the younger generations of analysts, led by Adler and Jung, the whole scope of psychoanalysis has been broadened and its method shown to apply to all affective factors in psychic life, so that it can be taught and studied without offense to the moral instincts and with tremendous gain to mental effectiveness and sanification. These thousands of pathological cases which gave the material for this new departure in paidology are only magnifications of normal traits that are found in all. I entirely agree with Stern that nothing could be worse than systematically to psychoanalyze normal children, but, on the other hand, a touch of it in time, where there is insight to see its need, might have saved many of us, and may now save the children of the future, tedious detours, risks and arrests in their development.

From no other standpoint has it been so clear that in the study of childhood is the key to all our knowledge of human nature. To understand the psychic life of the child is first of all to understand all the deeper springs of activity in adult life, even those that make men and women great or make them criminal or insane, for here human nature is laid bare to its roots. Again, the child is the key to the study of primitive man and savages. Much of the most important literature in the whole field of genetics in recent years has consisted in pointing out the childish traits in savages and the

savage traits in children. Even our forebears who dwelt in caves lived their lives, were wise or foolish, good or bad, sound or unsound in soul according to these rubrics. Indeed, even the higher animals in their fundamental instinctive activities can be thus better understood. In this field, too, are to be found the very best psychological explanations of war, its causes and the basal impulses that it unleashes. In fine, the more clearly we see that the unconscious or racial factors of the human soul are older, vaster, stronger than the conscious, just to that degree do we realize that the psychology of the future is to be genetic; for the best definition possible of anything in the world to-day is a plain description of the stages by which it has been evolved. Very many movements have already sprung from the recognition that the soul itself, no less than the body, has been genetically evolved, and for myself I have no doubt that the achievements that have so broadened and enriched the field of child study during the last 25 years since it was recognized by this Association, will at the end of another quarter century be indefinitely broadened. It is still morning, not evening.

Finally, in all these ways the student of child life to-day faces the most fundamental problems of human nature and character. Genetic psychology has well been called the psychology of depth rather than of surface. It deals with factors below consciousness, many of which in fact are too great to get into the narrow field of consciousness. It is just these wellsprings of life and mainsprings of conduct that war lays bare, for it takes us back to first principles. Its reversions bring men hard up against the stern problems of food, drink, warmth, physical comfort. Our splendid heroes in the trenches have consented to regress to the condition of the primitive cave-man and far worse. They experience the most intense of all emotions; they are exposed to mortal fear which may deepen into panic; courage enables them daily to look death in its most ghastly form squarely in the face. In the hand-to-hand conflict there is anger and rage, and they may at any hour have to ring up their very bottom reserves of energy or endurance. They oscillate from the extremes of most trying passivity under fire in the trenches to the mad impetuosity of the charge. The individual is swallowed up in the group, for the psychology of the crowd is all instinct, feelings, and emotion. The soldier compensates for the awful reality of war, too, by taking flight from it into song, jest, manifold recreations and games, reveries of home and loved ones. He packs up his troubles, smiles and "carries on," and all because he is perfecting his manhood by regressing to the regenerating wellsprings of childhood, and in so doing finds a new heart and

merges his life with that of the larger whole, as the bee lives only for the hive; and the best thing about war, and the only thing that can offset its evils and horrors, is the regeneration that its regressions may bring.

Thus to-day we are realizing anew that everything that is great, noble, generous, beautiful, true, has not only its inception but its purest and most elemental form in eugenic, eupeptic, euthenic, childhood. Its impulses and inspirations are the supreme impulsion, the most authentic voice of God in the world to-day. Jesus himself said and did nothing better than when he called children to him, set a child in their midst and said children always behold the Father's face, and threatened with a millstone in the sea all that gave them real offence, and would have all his followers become as children, to know and love whom keeps us teachers young, however old in years, for true, deep sympathy with essential childhood is likely to be more and more the chief qualification of the teacher. We may well rejoice to-day that it is our great good fortune to live in a period of renaissance of the naïve and the unconscious such as the world has never seen, in which, beside other great manifestations of this trend, childhood is more loved, studied, served, than it ever was in the world before. It is precisely this work that places in our fortunate hands the golden pass-key to every room in the splendid mansion of Mansoul.

GIRLS' COLLECTIONS

E. Leigh Mudge, Washburn College

The collecting instinct in boys has been frequently discussed. The contents of a boy's pockets, and the assortment of things, valuable only to the boy mind, which one may find in the room of any healthy boy, have occasioned much half-disgusted wonder in older people. That the collections made by girls are equally varied and characteristic, and, in fact, that the collecting instinct is as strong in girls as in boys, seems demonstrated in the lists of collections recently secured by the writer from thirty-four young women in a class in educational psychology.

Childhood Collections

The following objects are reported as having been collected in childhood alone. The number of instances in which the report is repeated is indicated by numbers in parenthesis. Those with no number following occur only once.

Small stones (7); Beads (3), Broken pieces of dishes (2), Scraps of colored paper (2), Doll clothes, Colored crayons, Bugs and butterflies, Rubber balls, Cigar wrappers, Pocket books, Cloth for doll clothes, Tumbleweeds, Buttons, Lightning bugs, Jewelry, Birds' nests, Birds' eggs, Locust skins, Shells.

Child Collections Continuing Into Adolescence

Many collections begun in childhood continue into adolescence, many up to 14 or 15, and a considerable number up to 17 or even up to the present college years. The following are of this class:

Paper dolls (17); period ending, on average, at 13, but some continuing to 16 or 17; Dolls (8), ending about 12 or 13, on the average; Books (9); Usually beginning in adolescence, but in a few instances before; Pictures (9); Mostly in adolescence; Post cards (9); Chiefly in childhood; Pennants (5), Pressed flowers and leaves (5), Colored silk or cloth samples (4); Chiefly in childhood; Stamps (4); Chiefly in childhood; Pets (3), Cats (2); Ending in early adolescence. One adds: "I hate 'em now;" Scrap book pictures (2), Valentines (2), Ribbons (2); Chiefly in childhood; Coins, Crochet patterns.

Adolescent Collections

These include collections begun in early adolescence, most of which have continued until now, and also those reported as being made now, without reference to the time they were begun.

Kodak pictures (11), Letters (7), Poems (6), Newspaper clippings (5): Several collections begun about 12; Dance programs(5), Music (5), Invitations, programs, etc., (3), Military souvenirs (2),Recipes (2), Magazines (2), Candy boxes (2), Rare coins, Balls, Ancedotes, Bread labels (At 16), Flowers, Old furniture, Magazine pictures, Jokes and games (12 to 15), Souvenir spoons, "Buffalo" nickels, Theater pictures, French souvenirs, Feathers from different kinds of birds (At 15), Old song books, Pennies, Bracelets (At 19).

BOOK REVIEWS

An investigation of certain abilities fundamental to the study of Geometry. By John Harrison Minnick (Doctor's dissertation, University of Pennsylvania), Lancaster, Pa., 1918, 108 p.

This is an exposition of the results of a comparison of marks given by the author to the answers to 5 sets of test questions in elementary geometry (first two books) by 5195 pupils in 63 schools in 10 states with the final school grades of those pupils.

The author states the object of his investigation thus: "Success in the formal demonstration of a theorem of geometry is dependent upon at least four abilities; namely,

1. The ability to draw a figure for the theorem,
2. The ability to state concretely and accurately the hypothesis and conclusion of the theorem,
3. The ability to recall additional facts about a figure when one or more facts are given, and
4. The ability to select from the available facts those that are necessary for a proof and to arrange them so as to arrive at the desired conclusion.

The purpose of this investigation is threefold:

1. To determine the relation of each of these four abilities to the teacher's marks. This should, in turn, determine either the extent to which the teachers value these abilities or the degree to which they are able to base their remarks on the things which they do value.
2. To determine the extent to which these abilities are developed in our high schools.
3. To develop tests which may be used for the purpose of diagnosis; that is for the purpose of determining whether or not the weakness of a class are due to the lack of development of one or more of these abilities."

Four tests (A, B, C and D) were developed, one for each of the abilities stated, and a fifth test (F) was added to supplement those testing abilities 3 and 4.

"Two scores were kept for each pupil. The one, to be known as the *positive* score, is based on the per cent. of necessary statements correctly given; and the other, to be known as the *negative* score, is the total number of incorrect and unnecessary statements in his papers." These two scores were kept separately. In making up the positive scores each exercise of each test is weighted on the assumption that an exercise for which the average pupil receives a mark of more than 50 on a scale of 100 is too easy by just that excess and should have proportionally less weight, and that an exercise for which the average pupil receives a mark of less than 50 on a scale of 100 should have a greater weight proportional to the difficulty indicated by the defect. Of course, the effect of this kind of weighting is to lower the score of the poor pupil and raise that of the good one.

The coefficient of correlation between the test and school grades has been computed for each school tested. Concerning the result of this comparison, the author makes the following remarks. "If the abilities which this study investigates are of value in themselves, or if they form the basis for other results which are of value, they should bear a closer relation to the school grades than these coefficients in-

dicate. If, on the other hand, the coefficients of correlation can be taken as indices of the values of these abilities, then these values are so slight that the schools are scarcely justified in giving as much time to this phase of geometry as is now given to it." "If the abilities tested are essential to success in the study of geometry, then the results indicate that progress in some schools is almost impossible until these abilities have been further developed. On the other hand the achievements of other schools indicate that it is altogether possible to develop these abilities to a fair degree during the study of the first two books of geometry."

The author gives the several exercises of each test, instructions to the examiners, the methods of scoring the papers, the number of points assigned to each part of each exercise, the various proofs found in the papers in test D, a detailed account of his method of weighting the exercises, and formulae for the coefficients of correlation.

The greater part of the paper is devoted to tables and diagrams showing the results of the investigation. These include diagrams showing the distribution of the pupils given by the positive and negative scores of the several tests, their distribution as given by all the tests collectively, and the distribution of the pupils in several schools separately (showing how much the schools differ from each other). The tables include tables of coefficients of correlation for the several tests, average positive and negative scores for each exercise, and the number of pupils receiving each positive and each negative score for each exercise.

Clark University. WILLIAM E. STORY.

National service and national education. By ERIC GEORGE. London, P. S. King & Son, 1913. 83 p.

The author takes up anew the problem of national defense which had prior to this writing (1913) been chiefly agitated by the National Service League, who sponsored the sentiments of Lord Roberts in "Fallacies and Facts" (1911) and later in "Christmas Message to the Nation."

Mr. George attacks the proposals made by the National Service League, contending that their words are only "generalities." The National Service League proposes a scheme of general compulsory military training for all between 18 and 21 for a continuous period of from 4 to 6 months. Mr. George condemns the plan from the following standpoints:

1. Training at this age breaks up commercial relations and thwarts vocation. This is a man's critical period in his industrial career.
2. Military training at this age unfits the man for everything but routine duty.
3. Compulsory military training for men is undemocratic and unpopular.
4. The National Service League's plan is far in excess of demand.
5. The National Service League's plan overlooks (as most schemes do) the educational aspects of military training.

The author attempts a plan based on the following principles:

1. Military training should be a part of public education and suited to the different grades (elementary and secondary).
2. Military training is the complement of a defective educational system, and should therefore be given, since it is the true source of teaching patriotism, eliminating child labor, avoiding "blind alley" careers, and leveling social classes, presupposing as it rightfully should a longer school career for all.

3. Discipline in boyhood is badly needed and military training is just the thing to give it—no one is a good leader unless he has first been a good obeyor.

4. Military training supplies the needed physical training which boys must have and do not under the present system get.

5. The discipline given by military training from say 14 to 18 could be calculated to carry over into later industrial life to great advantage —this would help solve labor problems, strikes, etc.

6. Training at this proposed early age avoids all the traditional army faults.

7. The Boy Scout movement has the same psychological basis but does not meet the national need, since there is so much dallying— George Junior Republics in U. S. A. are exaggerated egos.

8. A sense of discipline is the main thing lacking in our present educational system. This discipline must be supplied.

The proposals advocated are as follows:

"1. All boys must have physical exercises and simple squad-training at school. Primary education in arms.

"2. Immediately on leaving school, if at or under 16 years of age, they must have a minimum period of one year at a training school, at which the curriculum shall be partly military, partly industrial and mental, with strict discipline enforced.

"3. If at school beyond the age of 16, or after leaving the training school, they must be members up to the age of 18 of the Officers' Training Corps, or Cadet Corps, which shall be given more attention than heretofore, with a number of drills, musketry course, and three weeks' camp each year, as compulsory features of the training.

"4. After the age of 18, retain on a voluntary basis our army, Regular, Special Reserve, and Territorials, as at present, only resorting to compulsion if and when these regulations had proved a failure."

Military history shows that only since the practice of mercenary soldiery, has the idea of early military training and national defense been transferred to more adult years.

The foregoing scheme would not only be psychologically correct in supplanting Boy Scouts and Church Lad Brigades with a system that had "raison d'être" but it would stimulate habits of:

1. Common decency.
2. Cleanliness.
3. Correct sex habits by reason of necessary segregation at 14 under this scheme.
4. Anti-snobbery.
5. Endurance.

The hierarchy of educational aims is shown by the author to be: 1, Moral; 2, Physical; 3, Intellectual and Industrial, all which the author claims might reasonably be expected to function at the proper time if his scheme were adopted.

"Broadly, the itinerary should be early morning on the square, morning in the workshop or at the desk, afternoon in the field, evening in the class-room.

"In detail something as follows:

"6.00—Reveille.

"6.30—Chapel (not exceeding 10 minutes).

"7.00-7.45—Drill.

"8.00—Breakfast.

"9.30-12 (with interval)—Trade teaching or desk work.

"12.30-1.00 (alternate days)—Drill.

"1.15—Dinner.
"2.30 (outdoor)—Alternate days, military field work and games.
"5.00 (4 days a week)—Class-room.
"6.00—Tea.
"6.45-7.45—Class-room, informal.
"7.45—Chapel (again not exceeding 10 minutes).
"8.30—Supper.
"9.00—Lights out."

"With these provisions for temporary help the schools should be amply staffed as follows:

"For a colony of 500 boys—
"Headmaster.
"Chaplain.
"5 housemasters.
"20 instructors in various trades.
"5 sergeants and other non-commissioned officers of regulars.
"5 matrons, nurses, etc."

The author's concluding chapter summarizes his arguments:

1. Compulsory training in his scheme would be easy to enforce.
2. It would vitalize the school curriculum.
3. It would give opportunity to learn a trade.
4. It would cure social evils.
5. It would be an economic way (in the long run) of maintaining a trained body of citizen soldiers. J. W. S.

Festskrift til Overlærer J. Nicolaysen's 70 aars jubilæum. KRISTIANIA, J. W. CAPPELEN, 1917.

The well known schoolman and author of textbooks, J. Nicolaysen, has recently celebrated his 70th birthday. In honor of and gratitude to the worthy veteran, J. W. Cappelen's publishing house has published a *Festschrift* with a content that is remarkable. To this *Festschrift* eleven scientists have contributed, among whom are one Swedish and two Danish. After a poem dedicated to the celebrated man, the series of articles begins with one by Professor Dr. Otto Anderson on *A Few Words to and about Oberlehrer J. Nicolaysen.* In a clear and elegant style that is his own Dr. Anderson talks about several controversies with Nicolaysen on substantial disagreements and closes with pleasant reminiscences of the Norwegian educational meetings.

The Danish teacher, G. J. Arvin, writes on his gratitude to the Norwegian master of mathematics for what he has learned from him and tells about the lines he is now following in the difficult task of teaching children abstract numbers by concrete material—assisting the students with sticks, pieces of rocks, diagrams, blocks, etc.—in "self-observation and self-activity," in agreement with the fundamental principle of child-psychology, which the so-called activity school now tries to have introduced in all instruction, a principle to which *Oberlehrer* Nicolaysen has in practice indeed given most assistance in this country by his contributions to elementary arithmetic.

Of special interest is Dr. Helga Eng's contribution, in which she attempts to find, on scientific grounds, the reasons for children's difficulty in expressing themselves.

Drawing essentially on "the attempts of reproduction," the chief result that the author comes to is that synthetic or associative thinking is characteristic of the child, not in such a way, however, that the child as yet grasps logical combinations but simply adds one thing to the other purely associatively, for instance, bear—animal. According to Dr. Eng's statement this result is in contrast to the results of the well known German child-psychologist, Meumann.

The author's results certainly seem to agree, however, with most of the parents' and teachers' practical experience, so self-evidently correct that the present reviewer finds it inexplicable that Meumann could have found anything else. Careful investigator that he is, he has at any rate not made any sweeping generalisation, including all children in the same category (as far as one can find out). It would be interesting to get references to the passage and the context in which this discussion of Meumann's occurs *in extenso* in order to be able to judge it better.

Otto Grenners' article occupies an important part of the *Festschrift, Random Remarks on the Relation of the School to Superstition.* The indefatigable Norwegian pedagogue who for a number of years has sacrificed health and money for the purpose, so far in this country ungrateful, of lifting the schools up to a modern level, has here again made a well thought out and excellent contribution. According to the opinion of the present reviewer, the question of use and misuse in schools and homes of adventures and fables is of paramount importance. In an experimental study (*Zeitschrift für pädagogische Psychologie,* Leipzig, 1916), I have raised this question myself. It is and remains a folk-psychological problem how far we in this country are to foster the Peer Gynt dream and imaginary type. Has not the time come for the testing of all means for the production of a more rational imagination, if I may express myself that way, for the aid and support of daily deeds and future activity? Generation after generation the seed is sown to what a people is and shall be. Every blessed "Askeladd" (*"ashkid"*) has made me angry a thousand times. The children do not understand the moment of genius in him. On the contrary what many of them understand is that there is a Norwegian young man whose life's duty is "to dig in the dirt," and just because he is a sleepy slabberer always gets the princess and at least half of the kingdom. It is an important matter that Grenners discusses historically and thoroughly. It has a bearing, in my opinion, far exceeding a "school-problem."

Miss Sofie Lövdal, who has studied modern occupations for children abroad, and who has given, in a couple of books, good and very opportune guidance for Norwegian schools and homes, writes an illustrated article on pin-laying, paper-clipping, plasticine modeling, etc. The well chosen and exhaustive bibliography is especially good.

Such a veteran as school-superintendent Fr. Wilh. Neuberth, who for fully a generation has lived and worked for the school and its activities and many times brought us new impulses from other countries, writes on the unity-school (*Einheitschule*), so much talked about now, to which he earnestly believes the future belongs. Neuberth goes over the history of the movement among us and as former superintendent of both primary and secondary schools takes up many practical questions for discussion. Here is found a very refreshing stimulus to the performance of duty in our secondary schools, a school-reform which, in the opinion of the reviewer, may at once be carried out. I quote with pleasure from him: Consider for instance the textbooks of the secondary schools, how difficult and heavy they are to read, how much they contain of uninteresting, yes, tiresome stuff, tasteless to the child. Thus in the secondary school the boys and girls must, in mathematics, bother about bills of exchange, mortgages, clearing of bankruptcy, communal and federal bonds, effective and nominal bases of interest, the fineness of silver and gold, and so on; in the history of our country about commissions of arbitration, and other things; in the history of the North about Jac de la Gardie, the count of Pfalzbrücken; in the history of the world about an Assyrian king

"Assur Nazir-Bal"—Titus Mantius—Decius—Prusias—a king Gentarm in France, a "Count Perigord," etc., etc. We may agree or not agree with the author's fundamental views as to the question of the unity-schools, but we owe him thanks for all the concrete and stimulating facts that he contributes from his large and many-sided experience to the schools and the authorities.

The Swedish supervisor of the schools, Anna Sandsröm, writes on *Education—A Joy.* Pure idealist as she is, she closes with the following words: "The union of a whole people in joy over mutual spiritual treasures is the best form of democracy, the most noble form of education."

Our own Anna Sethne writes judiciously and well on *Imitation and Activity in Children.* In reading her paper one is struck by the fact how much we who are interested in child-psychology can learn by comparison with experienced parents and teachers.

Einar Sigmund publishes the thesis for his doctor's degree at our university and deals bravely and well with *Modern Ideals of Knowledge and Aims of Education.* In itself a good brief presentation. The reviewer, who has tried to follow the work in this field for a number of years, would, however, have liked to see the absolute principle of definite references to sources carried through, a principle which historical pedagogy may now generally subject itself to.

The book closes with a specially stirring and substantial discussion by the Danish judicial counsellor, Fr. Thomassen, in which he reviews the history of the development of the apparatus used in teaching children to count, beginning with the Chinese Suan-pan arithmetical board (mentioned 550 B. C.) and coming down to the latest Norwegian device.

In general it may be said that the *Festschrift* in honor of Oberlehrer Nicolaysen is also an honor to editor, publisher, and contributors. It should be found in every library. The book is well gotten up.

MARTIN L. REYMERT.

BOOK NOTES

An introduction to child psychology. By CHARLES W. WADDLE. Boston, Houghton Mifflin Co. (c. 1918). 317 p.

The author has not attempted to write a complete treatise on child psychology, because the topic is growing so fast. It is designed as an introduction to the subject for normal schools, colleges and universities. There is little room for finality, and great variety of opinion. The chief topics treated are, the historical background of the scientific study of children, its methods, biological perspective, heredity, nonlearned human behavior, play, linguistic development, drawings, moral nature, delinquency, mental development. The book has various figures and tables. Perhaps its chief value, however, is that it has an excellent selected bibliography at the end of every chapter. This was greatly needed and constitutes one of the merits of the book, which is an excellent one. It is auspicious for the further development of child study that this book and that of Luckey, "Essentials of Child Study," which appeared at about the same time, and which are both very valuable, have so little in common. This fact suggests the magnitude of the field and the impossibility of treating it adequately in a single volume, which both these writers not only admit but stress.

Problems of subnormality. By J. E. WALLACE WALLIN. Yonkers-on-Hudson, World Book Co., 1917. 485 p.

There are four basal questions relating to the mentally subnormal, first, the development of the art of differential diagnosis of degrees and types; second, differential treatment in accordance with this diagnosis; third, organization of systems of after-care; and fourth, preventive measures. The first is logically the most basal. The chapters in this book, after the introduction by Dr. Withers, are (1) Changing Attitude toward the Subnormal; (2) Who is Feeble-Minded? (3) General Principles and Facts in Organizing Work for Such Children; (4) The Problem of the Feeble-Minded in its Educational and Social Bearings; (5) Problem of Epilepsy in its Psychological, Educational, Social and Medical Relations; (6) State Provisions for Defective Children; (7) Hygiene of Eugenic Generation. The author has had a wide and varied experience in this field and his book is a valuable contribution.

Introduction to the scientific study of education. By CHARLES HUBBARD JUDD. Boston, Ginn and Co. (c. 1918). 333 p.

This book, we are told, is the result of eight years of experimentation in the University of Chicago. In 1909 the education department abandoned the practice of requiring courses in the history of education and psychology for intending teachers, and substituted one in introduction to education and one in methods. This was due to the belief that students needed to be introduced to school problems in a more concrete way, and this book is one attempt to do this. Of its twenty-three chapters the following perhaps are typical: professional training, science of education, health supervision, scientific supervision, play, select administrative problems, class-room management, methods, standardization, systematic studies of the curriculum, individual differences, the principles influencing the organization of

the curriculum, specialized education versus general, school buildings, grouping in classes, etc.

Originality; a popular study of the creative mind. By T. Sharper Knowlson. Philadelphia, J. B. Lippincott Co., 1918. 304 p.

The author's practice is to show the purpose of a study of creative thought, and to develop an interest in it; also to make suggestions as to the natural history of mind in its most inspired moments; and finally, to institute a regime for the individual whereby he may secure the highest mental efficiency. It is an ambitious program. The first section considers the natural history of genius, beginning with a study of consciousness, its traits and implications, as a form of energy, its relations to the unconscious. The second section deals with the origin of new ideas considering inspiration as a natural process, its laws, limits and pathology. The third treats of biological factors, age and sex. The fourth treats of hindrances which are found in the sense of the past, effective home-training, false education, the lack of a science of reading, low standards of merit, incomplete effort, the professional mind. The fifth section, looking ahead, inquires if originality is now possible and makes conjectures about it for the future; while the last section, praxis, is devoted to reflections on mental attitudes and methods.

Civic biology; a textbook of problems, local and national, that can be solved only by civic coöperation. By Clifton F. Hodge and Jean Dawson. Boston, Ginn and Co. (c. 1918). 381 p.

This is a new book, though it has been in the making for a number of years. It is enough to say that it is a fitting next step to Dr. Hodge's "Nature Study," which marked an epoch in the teaching of biology in the grades. This is more adapted to the high school and will doubtless prove no less epoch-making. The measure of our present needs, we are told, is seen in the wastefulness and loss that we find in the world to-day, for perhaps half a million valuable lives are sacrificed annually by preventable diseases, along with billions of dollars' worth of food and other property, swept away by rats, insects, weeds and fungi. The authors well ask how much higher must the cost of living soar before we begin to awake from the dream that we are a scientific and efficient people. The thirty-two chapters of the book are illustrated by somewhat less than two hundred cuts which are well chosen. The authors take a broad view of their subject and draw wisely and well from the vast resources of modern biology, and show us very clearly how biological laws underlie civilization in ways that the public does not realize but which the war is bringing home.

Catholicity; a treatise on the unity of religions. By R. Heber Newton. New York, G. P. Putnam's Sons, 1918. 362 p.

This is the author's second posthumous volume, the other being "The Mysticism of Music" in 1915. He had planned the volume and chosen the title and designated its contents. Its main chapters are, Christianity as a Rebaptized Paganism; The Cipher of the Cross; The Witness of Sacred Symbolism to the Unity of Religion; Christianity, the Flower of Paganism; The Hidden Wisdom of Paganism; The Open Secret of Christianity; Religions and Religions; The Limits of Fellowship; Possibilities of Common Worship; Christianity in Evolution; The Survival of the Fittest.

Memory and the learning process. By DARWIN OLIVER LYON. Baltimore, Warwick and York, 1917. 84 p.

The five chapters here are as follows: on the forms of mental activity included under memory; subdivisions of memory in general, with special reference to their relations to the learning process; relation of the length of material to time taken for learning and the optimum distribution of time; the relation of quickness of learning to retentiveness; educational value of psychological research, with especial reference to economy in learning and mnemonic systems.

The Oregon missions; the story of how the line was run between Canada and the United States. By JAMES W. BASHFORD. New York, Abingdon Press, (c. 1918). 311 p.

This is an interesting portrayal of the deeds which determined the boundary line between Great Britain and the United States from the Rocky Mountains to the Pacific Ocean. The work begins with the Indians' search for God, and subsequent chapters treat of Jason Lee, the Hudson's Bay Company, the Catholic Church, the United States Government, Oregon pioneers, mission work, the provisional government, and finally, Marcus Whitman.

The small family system. Is it injurious or immoral? By C. V. DRYSDALE. New York, B. W. Huebsch, 1917. 196 p.

This work, after two suggestive prefaces, gives opinions of medical authorities, and finally of clerical authorities, and contrasts with their opinion the way in which members of these professions act. The subject is discussed in further chapters from the standpoint of public health, preventive methods and cancer, morality, limitation and social reform, the single child system, progress since 1913, and the war and the birth rate commission.

The case for birth control; a supplementary brief and statement of facts. Prepared by MARGARET H. SANGER. 1917. 251 p.

This work treats in successive chapters of the origin and practice of birth control in various countries; the population and the birth rate; infant morality; maternal mortality and diseases affected by pregnancy; harmful methods practised to avoid large families; prostitution, feeble-mindedness, and venereal diseases; other transmissible diseases and pauperism; and finally, conclusions and opinions, with a glossary added.

Methods and standards for local school surveys. By DON C. BLISS. Boston, D. C. Heath and Co., (c. 1918). 264 p.

This is a convenient epitome dealing with, first, the general conditions; then the organization and administration; the supervisory and training staff; salaries; pupils; efficiency of instruction; course of study and the time schedule; the school as a social and community center; buildings; hygiene; finance; planning for future needs; statistical interpretation; graphical representation.

Report on some measurements in spelling in schools of the Borough of Richmond, City of New York. Issued by the Division of Reference and Research, Eugene A. Nifenecker, Assistant Director. New York, Department of Education, 1918. 88 p.